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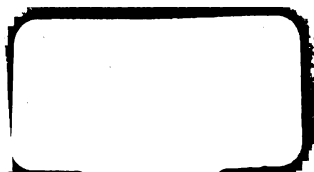
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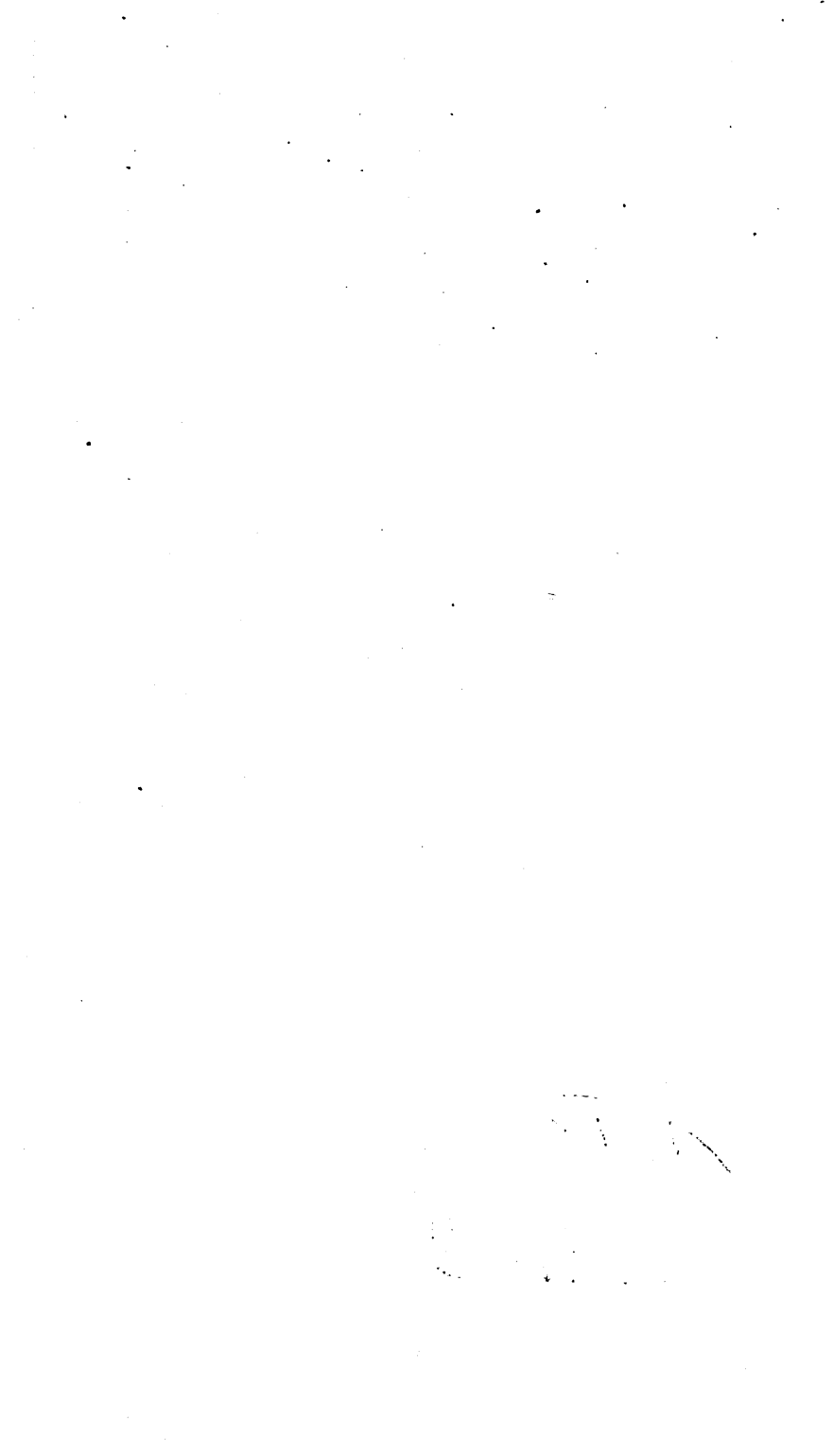
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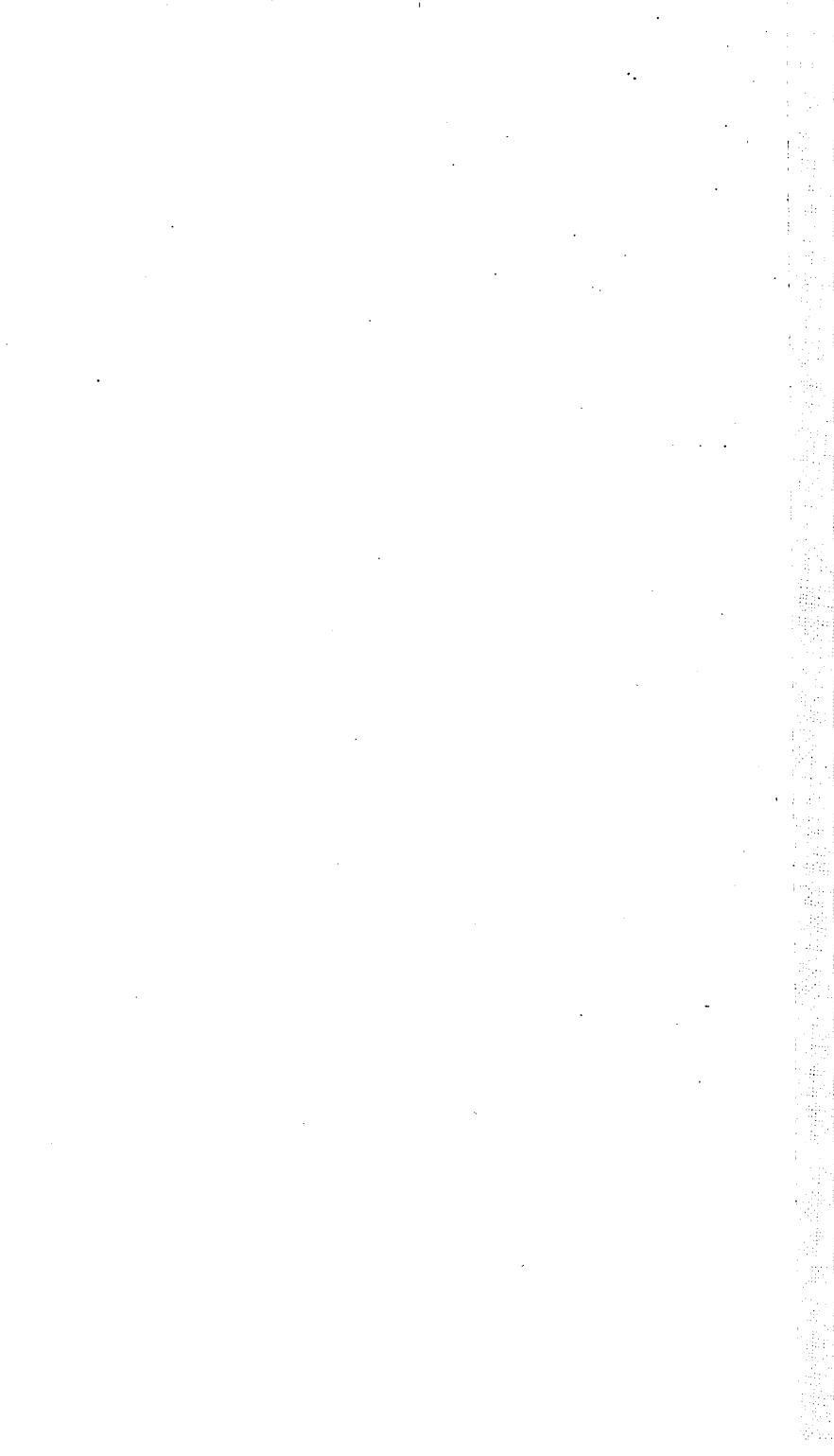
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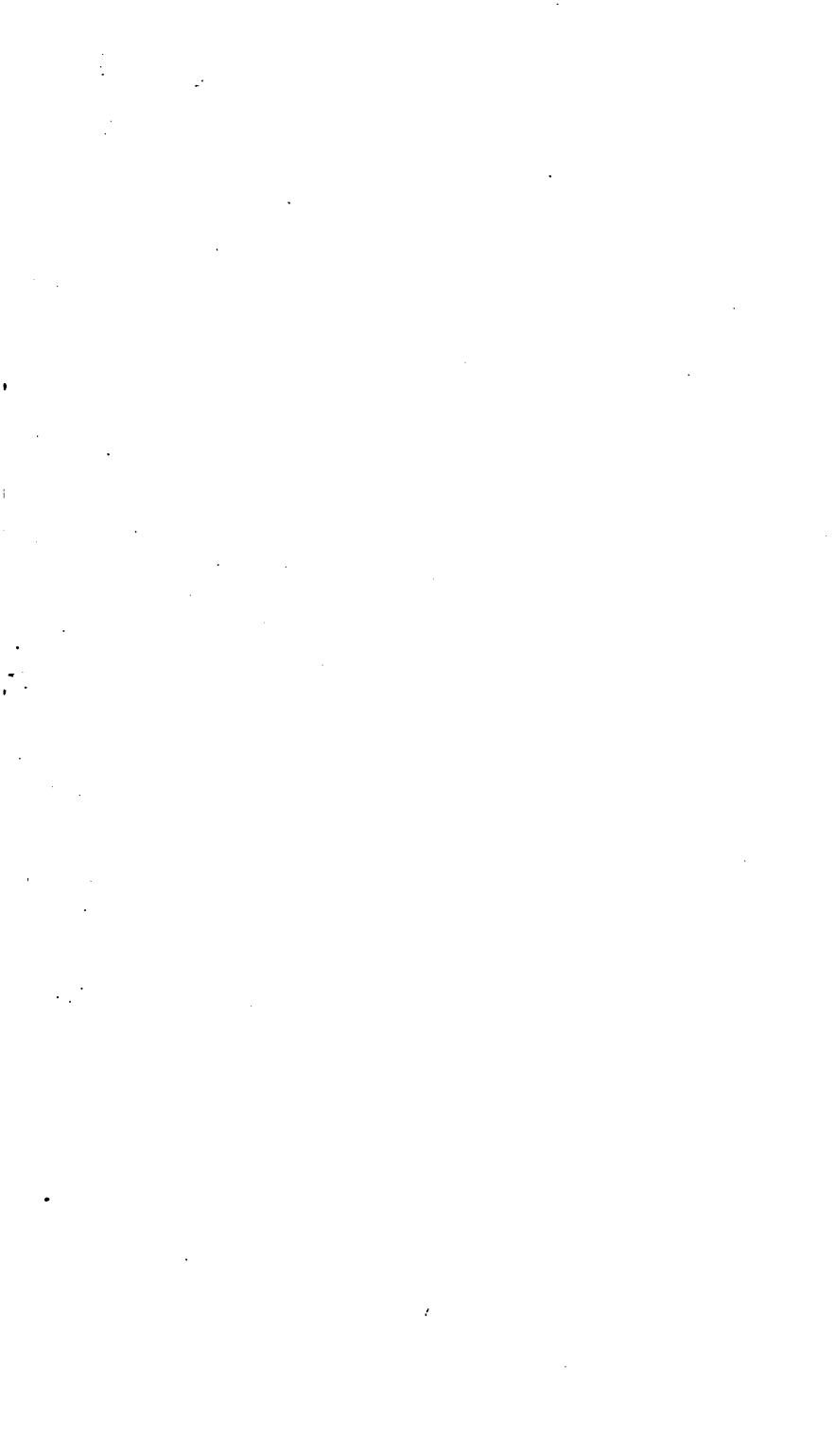
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SHORT

STATEMENT

OF

SOME IMPORTANT FACTS,

RELATIVE TO

THE LATE ELECTION

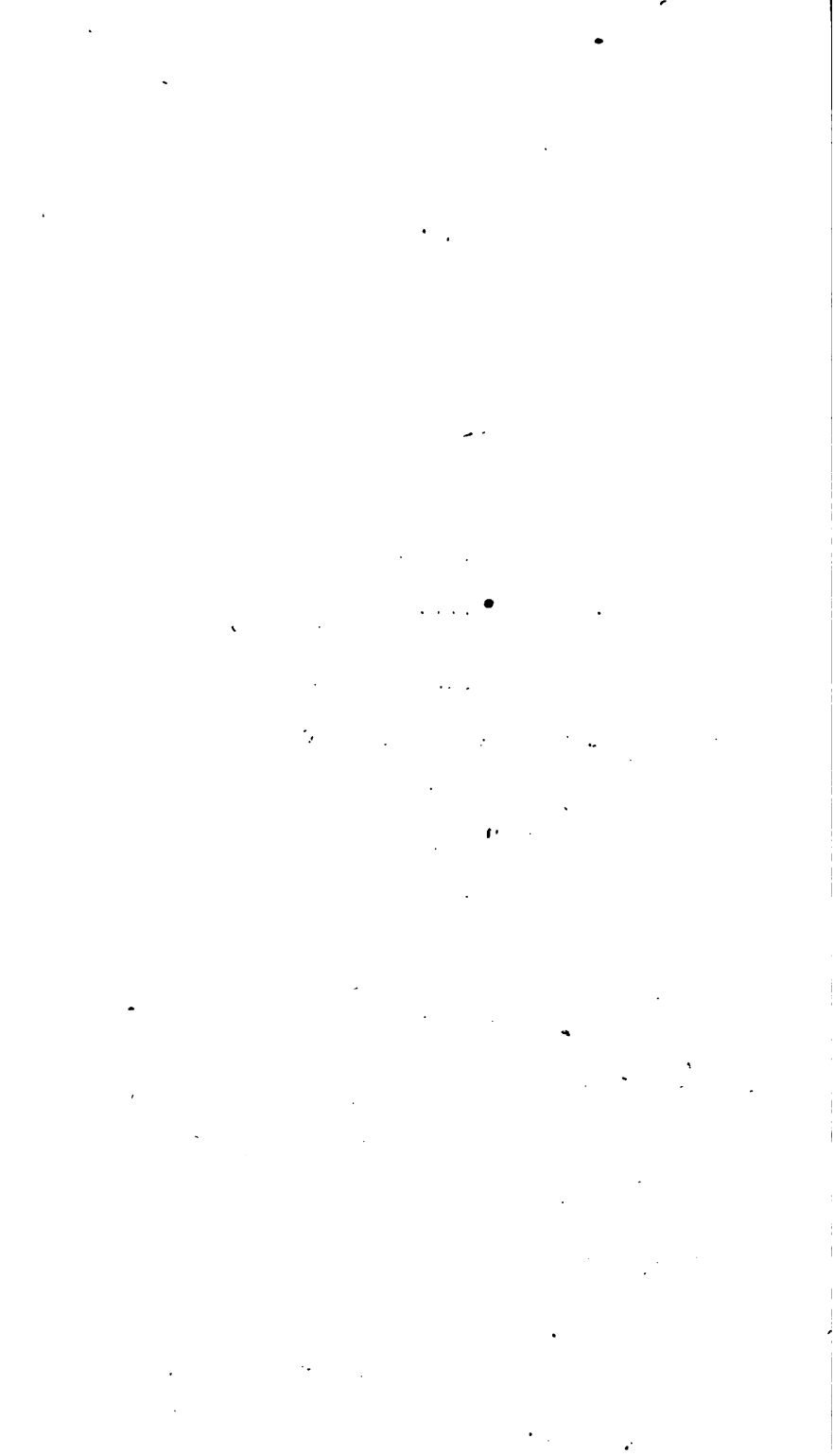
OF A

MATHEMATICAL PROFESSOR

IN THE

UNIVERSITY OF EDINBURGH.

STK



5

A
SHORT
STATEMENT
OF 1734,
SOME IMPORTANT FACTS,
RELATIVE TO
THE LATE ELECTION
OF A
MATHEMATICAL PROFESSOR
IN THE
UNIVERSITY OF EDINBURGH;
ACCOMPANIED WITH
ORIGINAL PAPERS,
AND
CRITICAL REMARKS.

By Dugald Stewart

Edinburgh:

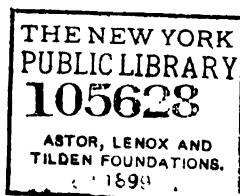
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1805.

STK



ADVERTISEMENT.

THE attempts which have lately been made, by an anonymous attack in the newspapers, and by a libellous memorial clandestinely circulated, both in Edinburgh and in different parts of the country*, to create a prejudice in the public mind against Mr Leslie's character and principles, and more particularly to influence the opinions of individuals who are, in a few days, to sit as judges on a question in which his reputation and interests are deeply involved; rendered it indispensably necessary, previous to the meeting of the General Assembly, to correct the misrepresentations on this subject, which have already remained too long unnoticed. Having had the honour of being chosen to represent the University of Edinburgh in that Venerable House, I have felt it incumbent on me to take upon myself this ungrateful task; and I have accordingly endeavoured, in the following pages, to give such a statement of the principal facts connected

* For both the papers here alluded to, see Appendix.

nected with Mr Leslie's election, as may convey a sufficient idea of the great outlines of the business to those who had no opportunity of judging of it from their own observation. In the course of this statement, I have also introduced various original documents, which I was anxious to record, and of which, I flatter myself, the greater part will be found not unworthy of general attention; and some critical remarks, calculated to remove the unfavourable impressions which the papers already referred to may have produced.

As the whole was the hasty production of a few days, (which I could ill spare from other occupations), I must entreat the indulgence of my readers to the careless style in which it is written, and to those defects of arrangement which may probably be observable in some parts of my argument. For the correctness of my details, and the fairness of my reasonings, which to my own judgment appear sound and conclusive, I consider myself as fully responsible.

DUGALD STEWART.

*College of Edinburgh, }
May 15. 1805.*

A

SHORT STATEMENT, &c.

THE University of Edinburgh having (on the 30th of January last) been deprived of one of its ablest supporters and brightest ornaments, by the death of the late Dr John Robison, a very general solicitude was felt, not only by his colleagues, but by all who take an interest in the prosperity of this city as a seat of learning, that his place should be supplied by some person qualified to succeed to such a predecessor, and to the other eminent men who had filled the same station

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since the commencement of the preceding century *. The right of election is vested in the Lord Provost, Magistrates, and Town-Council of Edinburgh ; and, in no former instance, (I may venture to assert with confidence), was it exercised in a manner more creditable to the Patrons, or more congenial to the wishes of the public, than on this last memorable occasion. Without any solicitation on the part of Mr Playfair, the vacant chair was offered to that gentleman by the Lord Provost ; and he was accordingly (on the 6th of February) removed from the Professorship of Mathematics to that of Natural Philosophy. The advantage of the change, in point of emolument, is doubtful ; but the duties of his new office were more agreeable to Mr Playfair, as they opened a more enlarged and varied field to his Academical labours.

In justice to the numerous and very respectable candidates who aspired to the vacant chair, I think it proper to add, that the solicitations which they addressed to the Patrons

* Sir Robert Stewart, Sir John Stewart, (son to the former), Dr Adam Ferguson, and Mr Ruffel.

trons of the University were very generally, if not universally, accompanied with a tribute to the literary merits and public services of Mr Playfair, equally honourable to all the parties concerned. A wish, if I am not misinformed, was in every instance expressed, that Mr Playfair's views should, in the first place, be consulted, and that the competition should be understood to be confined to that office which he should consider as the least eligible of the two.

The Patrons of the University, in the mean time, having, in compliance with the unanimous wishes of the most competent judges, so faithfully discharged this part of their duty, resolved to proceed with all possible deliberation in the execution of the other. A sufficient opportunity was afforded for candidates in every part of the island to bring forward their pretensions; and a determination was openly announced by the Chief Magistrate*, to be guided in his choice by no consideration but the comparative merits of the competitors, and the weight of recommendation which they should severally produce in support of their claims.

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Upon

* Sir William Fettes of Wamphray, Baronet.

Upon the death of Mr Robison, the first candidate who appeared was the Reverend Thomas Macknight, one of the ministers of Edinburgh ; a gentleman who, though unknown to the world as an author, was understood to have cultivated, very successfully, the sciences both of mathematics and of physics ; and who, for a considerable time past, had been occasionally employed as assistant to Mr Robison, when laid aside by indisposition.

At a very early period of the business, he did me the honour to communicate to me his views ; and I then expressed to himself, as I have on all occasions done to others, the favourable opinion which I entertained of his abilities and acquirements. With respect, however, to the office in question, I declined to come under any engagements till I should know who were to be his competitors ; adding, in the most explicit terms, that if he should succeed in his canvass, the interests of the University seemed to me to require that he should resign his ecclesiastical living ; and that I trusted that our Honourable Patrons would make this an essential condition, in the event of his appointment.

The following copy of my letter to the Lord Provost will explain sufficiently the motives by which I was influenced in taking a step so repugnant to all my usual habits, as a passive spectator of the occurrences of the day. Nothing, in truth, but my complete conviction, that the ruin of the University was threatened by the measures which were avowedly in contemplation among a party of the Edinburgh Clergy, could have led me to think of it. The contents of my letter will, at the same time, show, that I was actuated by no wish to exclude from our Universities those Ministers of the Church of Scotland, whose literary acquirements, or taste for the sciences, might lead them to prefer the duties of an Academical life to those connected with the exercise of their Clerical functions.

“ Edinburgh, 12th February 1805.

“ MY LORD,

“ I did myself the honour of calling upon your Lordship on Saturday, and intended to have repeated my visit yesterday or to-day ; but a fore throat, which has confined me to my bed-chamber since Sunday afternoon, lays me under the necessity of troubling your Lordship with a letter.

“ After having done the duty of a Professor in this University for more than thirty years, (not to mention my hereditary connection with it for nearly twice that period), I flatter myself I stand in no need of an apology with your Lordship, for presuming to offer my opinion on a subject which I conceive to be deeply interesting to its future prosperity. I have no favour to ask for myself, or any other individual; nor can I be suspected of any motives but such as it is my pride to avow to the public,

“ The single point to which I am anxious to draw your Lordship’s attention, is the expediency of uniting Professorships with Ecclesiastical livings. I shall make no invidious references to what is already past; but the honourable proof which you have just given of the liberal and enlightened principles by which you are guided in the exercise of your Academical patronage, encourages me to hope, that a check may be yet given to a practice, which, if persisted in for a few years longer, must inevitably terminate in the ruin of an establishment, from which this City has derived, for more than

two centuries, much solid emolument, as well as literary distinction.

“ That our Theological Professorships should be held by Ministers of Edinburgh, has been always my opinion and my wish; although I know that even such pluralities are reprobated by many clergymen of this country, who, in their zeal for the interests both of religion and of literature, are certainly not surpassed by any of their brethren. But in no other case whatever, am I able to conceive an argument which can be urged in favour of such a measure, which will not conclude with greater force in favour of uniting different Academical offices in the same person. During the very long period of my own connection with the College, I have had the satisfaction of lending my assistance occasionally to more than one of my colleagues. In the year 1778-79, while Professor of Mathematics, I gave a complete course of Lectures on Moral Philosophy for Dr Ferguson; and a few years afterwards, when he was taken suddenly ill, after the commencement of the session, I supplied his place for four months. In the year 1787-88, after being translated to the Chair of Moral
Philosophy,

Philosophy, I relieved the late Mr Robison, for one whole season, of his Academical duty; and yet on none of these occasions, nor in any case of vacancy which has since occurred, did I indulge the idea of holding more Professorships than one, although the practicability of doing so has been repeatedly pressed on me by some of my friends. At this moment I feel myself as competent to discharge the duties of the Mathematical Professorship, in addition to those of my own, as I was twenty-five years ago, when I united the labours of both. But I can with great truth assure your Lordship, that were the vacant office now in my offer, the prospect of doubling my income would not make me insensible to the disgrace of giving my sanction to a precedent, so contrary to the spirit of those rules under which our Scotch Universities have hitherto flourished.

“ In what I have now taken the liberty to state to your Lordship, I have proceeded on the supposition, that Mr Playfair’s office as Professor of Mathematics is already vacated by his acceptance of the Professorship of Natural Philosophy. At the same time, I cannot see any principle on which that supposition

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tion rests, which will not apply equally to any beneficed clergyman who shall accept of the same situation. One thing I may venture to assert is, that a union of two Professorships, so nearly allied in their provinces, would have a propriety, which cannot be alleged in favour of some appointments which have already taken place; and I may add, with equal confidence, that there is no individual in Scotland more fitted than Mr Playfair to discharge the duties of both offices with credit to himself and advantage to the public. Even in this strongest possible case, however, I should consider a union of two such laborious employments as a pernicious example; and I have the happiness to know that Mr Playfair's sentiments on this head coincide entirely with my own.

“ I am sensible of the impropriety of trespassing so long on your Lordship's time; but a variety of circumstances combine to give me an interest in the literary fame of the University, which cannot be supposed to operate in an equal degree with those who either consider their Academical stations as secondary objects, or who may be disposed to employ them in subserviency to particular

lar views of ecclesiastical policy. Fown I am sanguine in my hopes, that on this occasion my suggestions will meet with a favourable reception; but even should my expectations be disappointed, I can rely with confidence on your Lordship's candid indulgence; and it will afford some satisfaction to my own mind, that I have neglected no means of which I could avail myself, for the accomplishment of a purpose, which, from the fullest conviction of its importance to the interests of learning and of the University, I have so sincerely at heart.

“ I have the honour to be, with the greatest respect, my Lord,

Your Lordship's most obedient Servant,

(Signed) DUGALD STEWART.”

Right Honourable }
The Lord Provost of Edinburgh. }

The considerations very hastily and imperfectly stated in the foregoing paper, were soon after powerfully seconded, in a long and excellent letter to the Lord Provost, from my friend and colleague Mr Playfair. This letter, I am peculiarly happy in having an opportunity

portunity to communicate to the public, as I cannot help indulging the hope, that its good effects may thus be perpetuated among the successors of our present Magistrates, when the details of that competition by which it was occasioned shall have sunk into oblivion.

“ MY LORD,

“ A dangerous innovation, which appears at present to threaten the University, induces me to give your Lordship the trouble of a letter. When I take this liberty, I hope you will not think that I presume too far, as I mean to do no more than lay before your Lordship an opinion about the degree of effort and application necessary for the discharge of duties, in which I have been long exercised; and much less, I flatter myself, will you suppose, that what I now do, argues any distrust in the zeal and attention with which the Patrons of the University watch over its interests. Were I less convinced than I am, of the honourable and disinterested motives by which they are actuated, I would sit down in silence to lament a misfortune which I saw no means whatever to avert.

“ The measure to which I refer, and
which,

which, as I understand, is at present under consideration, is the appointment of a Clergyman holding a living in the Church, to the Mathematical Chair in the University. This is certainly an innovation ; because, among all the Professors of Mathematics in this College, or indeed in any other College in Scotland, no instance of the kind has occurred ; and I have called it a dangerous innovation, as I am fully convinced that the consequences of it must prove highly prejudicial to the University. The grounds on which this conviction is founded, are respectfully submitted to your Lordship.

“ If we look back into former times, my Lord, the history of our University presents us with a series of Mathematical Professors, that would do honour to any literary institution in Europe. About a hundred and thirty years ago, James Gregory, the inventor of the reflecting telescope, and the discoverer of many valuable truths in science, was Professor of Mathematics in the University of Edinburgh. He was succeeded by his nephew David Gregory, a Mathematician also of great eminence, and afterwards Professor of Astronomy at Oxford. The brother

ther of David succeeded him in Edinburgh, and for thirty years upheld the honour of his name and the credit of the University. Maclaurin came next, one of the most celebrated men whom this Island has at any time produced, and whose name, after that of Newton, is of all the British Mathematicians the best known among foreign nations. Maclaurin was succeeded by the late Dr Matthew Stewart, a Geometer who has left behind him many monuments of the highest talents, and most original genius. His son, who followed him, and who, at an early period of life, taught the mathematical class, with all the correctness and gravity which could have been expected from experience and age, has only been prevented from rivalling his father in the researches of Geometry, by the impulse of genius directing him to other objects.

“ The retrospect of such an illustrious line of predecessors has for me much more to humble than to elevate, feeling as I do, that I am in nothing entitled to compare myself with them, except in the love of science, and zeal to promote its advancement.

“ Now,

“ Now, my Lord, of all those whom I have enumerated, there is not one who ever appears to have thought of uniting his Academical office with any other, or to have supposed, that his duty as a Professor of Mathematics was not a sufficient exercise for whatever skill or talents he might possess. Every one of them devoted his whole mind to science ; and most of them, by the discoveries and improvements which they made, have left to posterity the most satisfactory evidence, that their profession, and the studies connected with it, were the great and sole object of their lives.

“ Indeed the duties of the Professor of Mathematics in the University here, if performed even with tolerable care, are a full employment for the ordinary degree of talents and industry which men possess, taking these at the average for which all human institutions should be calculated. Three hours a-day taken up in public lectures, in two of which the subjects treated of are often of considerable difficulty, will be found by most men a very sufficient occupation. But if the duties of the mathematical chair are not confined to the mere act of teaching, if they

they are discharged as they ought to be, and as they have been by the distinguished men who have gone before us, they will require all the time that can possibly be devoted to them. The Professor will then have a great deal more to do than merely to give lectures: he will dedicate a large proportion of his time to his own improvement, to the study of those discoveries that have been made, and that are continually making, over all Europe; and he will seek to extend the bounds of science, by new and original investigations. This is the only way of discharging his duty, so as to improve knowledge, and to do credit to the University and himself. The Professor who takes this view of the matter, and is a real lover of science, will not feel much desire to have more work put into his hands, or to have the number of his avocations increased. Indeed it is the man who is best qualified to be a Professor of Mathematics, who will find the duties of his office the fullest occupation for him; and the more he is fitted to discharge them well, the less leisure will he find for other pursuits. One, again, who has no particular turn for the Mathematics, and

who aims only at going through the ordinary *routine*, without making any discoveries or improvements of his own, may find that he has time to spare, after what he conceives to be his Academical duty is performed. The capacity of doing one thing well, and that of doing several things indifferently, are very likely to be inconsistent with one another.

“ In what I have now the honour of stating to your Lordship, I am not afraid that I shall ever be contradicted by any one really entitled to the name of a Mathematician; that is, by any one who loves and understands the science. Were the cause I now plead to be tried before a jury of such men, I should have no doubt of a unanimous verdict being given in my favour.

“ In all this reasoning, your Lordship will plainly perceive, that I take it for granted that a Minister of the Church of Scotland has something to do, and that there are attached to his function many duties of high and serious import, which it requires time and diligence to perform. If this is not true, and if the situation of a Clergyman in Edinburgh requires no exertion, or next to none,
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it must be confessed that the preceding argument falls entirely to the ground.

“ Another observation which I have to submit to your Lordship is, that as there are some studies which unite readily, and mutually assist one another, so there are some that do not readily accord, and are not easily pursued at the same time. If we may judge from facts, the duties and habits of a Scotch Clergyman stand, with respect to the mathematical sciences, very much in the last of these situations. Though the Clergy of our Church are undoubtedly a very enlightened body of men, well educated, well informed, and many of them of great learning and talents, yet there are among them very few instances indeed of any one eminent in Mathematics or Natural Philosophy. So much is this the case, that the whole Church of Scotland does not, I believe, at present, afford any example but one (Dr Small of Dundee) of a man known to the public as the author even of a single memoir in any of these sciences. From whence can this proceed, my Lord, but from a certain degree of inconsistency between those sciences and the studies to which Clergymen are naturally led

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by their profession. The leisure that remains after the duties of the pastoral office are discharged, is often applied to literary objects with great success; and if it is so seldom applied to the Mathematics, it is probably because it is not of that uninterrupted kind which is necessary for going deep into this latter science. Were it not for this, or some reason of a similar kind, how could it possibly happen, that of nearly a thousand men, bred to literary pursuits, so few are known for their attainments in those sciences, which every where else occupy so large a proportion of the talents and industry of the learned world?

“ If there is any thing in this observation, my Lord, it furnishes a strong argument against uniting the office of a Clergyman with that of a Professor, either of Mathematics or Natural Philosophy. Indeed all the arguments I have used apply, in a great measure at least, to the latter of these as well as to the former: and it is worthy of remark, that the late Mr Russell, who filled that chair with great ability, found that it afforded him such entire occupation, that he virtually gave up his business as a Surgeon, by resigning it into the hands of a partner.

“ Similar

“ Similar conclusions, I think, might be extended to the chairs of Humanity and Greek, because of the number of hours which they employ, and likewise to the chair of Moral Philosophy, because of the vast range of study which it requires. But of these I say nothing, because I can have no information to give that can have any particular claim to your Lordship’s attention.

“ It is argued, I know, in defence of the measure of uniting Professorships in the University with livings in the Church, that the emoluments are in both cases too small, and that this is an easy way of augmenting them, without any expence to the public. Now, though it may be true that the incomes above mentioned are too small, so that both Ministers and Professors are paid considerably under the rate that the education and talents required in their respective professions might entitle them to expect, yet I can by no means admit that this is a proper remedy for the evil. The augmentation thus made to the fixed salary, that is, to the part of the Professor’s emolument that is independent of the diligence and ability with which he discharges his duty to his class, is too great,

and out of proportion to the rest. If a Clergyman, with a living in Edinburgh, was made Professor of Mathematics, he would have between L. 300 and L. 400 a-year of fixed salary, which would remain the same whether his duty was well or ill performed. Taking human virtue at its ordinary average, it may very well be doubted whether this would stimulate the industry of the Professor. I do not believe it will ever be found a good arrangement in matters of this kind, to allow the salary to exceed, or even to equal, the emoluments from the class-fees.

“ But waving this consideration : if by the augmentation of the living here proposed, and the consequent augmentation of labour, that labour is worse done, as we have already seen reason to think that it must be, the University and the Public must suffer by it. Though the public does not pay any thing additional to its servants, yet if the work is worse performed, the frugality of the measure will not have much to boast of. It seems also clear, that the diminution of the number of places to be occupied by literary men, and affording a decent provision for them, is in itself a great evil, and is an insuperable

superable objection to the union of Academical with Church preferment.

“ Indeed if a union of offices were absolutely necessary to make out a decent provision for the Professors of science, it were better to unite one Academical chair with another, than with a profession to which it has less affinity. Such a measure, however, would be reprobated by the public, and every friend of science; nor does it seem to me that the measure now proposed is entitled to more indulgence. This argument, however, has been so well treated in Professor Stewart’s Letter to your Lordship, that it is unnecessary to trouble you with any farther observations on it.

“ When it has been urged, that the union of the duties of a Clergyman with those of the Professor of Mathematics, was likely to produce more labour than one person could execute to purpose, I have heard it answered, that this consequence was not to be apprehended, as a man trained to business finds that his power of executing increases in proportion to the work which he is required to perform. But if they who argue thus mean to lay it down as a proposition abso-

lutely, and without any restriction, true, that a man's ability to work constantly increases as the task assigned him increases, and that therefore a man can never be overloaded with business, their position is so absurd and untenable, that no reply need be made to it. If, again, they only mean to affirm, that, for a certain length, a man's activity will keep pace with his duty, and increase as it does, they affirm what is true, but what is of little use to their argument; for it will still remain to prove, that the labour of the joint office is within the limits to which their proposition extends. It is certain, that if a man has too little to do, the habits of indolence may prevail, and even the little required may be ill performed; on the other hand, it is no less true, that the task may be so much increased, that his utmost exertion is unequal to it; so that he will do his work ill from mere inability to do it better. The precise quantity of work that may be best and most effectually performed, either by the mental or bodily exertion of an individual, can only, I apprehend, be learned from experience; and if, in the present case, we appeal to the practice of former times, we will conclude,

that

that the duty of the College is sufficient for the Professor, and the duty of the Church sufficient for the Clergyman. The University and the Church have both prospered under this principle ; and your Lordship, I am persuaded, will hardly think it safe to have the new-fangled doctrines of modern times set up against the sound and tried maxims of experience.

“ Another pernicious consequence that in time must infallibly result from uniting the Church livings in Edinburgh with those in the University is not difficult to be foreseen. The Clergy of Edinburgh being on the spot, would have great advantages for maintaining themselves in the possession of the Chairs in the College above all other competitors. Laymen would be almost necessarily excluded ; and, when they stood forward as candidates, would always have a powerful combination against them. The competition for the vacancies in the University would thus be greatly narrowed ; and instead of extending, as it does at present, to all the men of letters in the kingdom, would be in effect confined to the Ministers of Edinburgh.

“ These,

“ These, my Lord, are the principal remarks that have occurred to me on this subject. I must not, however, conclude without assuring your Lordship, that I have no intention of derogating in the least from the merit of the candidate alluded to above. I have only wished to prove to your Lordship the expediency and importance of the Professor whom the Patrons of the University shall now think it proper to appoint, coming forward as much disengaged from all business, but that of the College, as all those have been who went before him; in a word, that the Professor of Mathematics should be at liberty to devote himself entirely to science, without being perpetually drawn aside from his Academical labours, by the demands of a higher and more imperious duty.

“ I have now, my Lord, only to entreat your indulgence for having trespassed so long on your time. I am,

My Lord,

With great respect,

Your Lordship's obedient,

and humble servant,

(Signed) JOHN PLAYFAIR.”

Edinburgh, 23d Feb. 1805.”

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The interval which had now elapsed since the vacancy took place, had afforded to the different candidates an opportunity of collecting whatever testimonies they were able to procure to their qualifications and character. To one of the number, a fortunate incident, in the mean time, occurred, which could not fail, with candid judges, to incline the scale strongly in his favour. What I allude to, is the Unanimous Resolution of the Council of the Royal Society of London, to adjudge to Mr John Leslie Count Rumford's prize for his *Experimental Inquiry concerning Heat*, published in the course of the last year. This intelligence was communicated to Mr Leslie in a letter from Sir Joseph Banks, which, as it added not a little, in the opinion of all who read it, to the value of the honour which it announced, I should have wished to insert here, if the urgency of the occasion had allowed me sufficient time to request the permission of the writer.

In addition to this mark of distinction, so flattering to Mr Leslie, and so gratifying to the feelings of every Scotchman who takes an interest in the literary fame of his country, certificates, expressed in the strongest
and

and warmest terms, were produced from Dr Maskelyne, Astronomer Royal; from Dr Hutton, Professor of Mathematics in the Royal Military Academy at Woolwich; from the late Professor Robison of this University; and from Mr Baron Maseres, a gentleman well known in the Republic of Letters, for more than half a century, by his valuable writings, and endeared, by his exemplary worth and amiable manners, to a wide circle of friends. Sir William Erskine of Torry, Baronet, Mr Dempster of Dunichen, Mr Josias and Mr Thomas Wedgewoods, Dr Hunter of St Andrew's, and Mr Playfair of Edinburgh, added their testimonies in favour both of his talents and of his irreproachable life; and, superfluous as it was, after such tributes to his merit as I have just mentioned, I could not deny myself the satisfaction of offering my own.

The strong impression produced by these circumstances on the minds of the Electors was matter of common conversation in this City; when some obscure insinuations, to the disadvantage of Mr Leslie's character and principles, began to be secretly circulated. The form which they at first assumed was so indefinite,

indefinite, that it was impossible for his friends here to do any thing in his vindication; but two very respectable Clergymen in Fife, to whom he was intimately known, (one of them minister of the parish where he had spent his early years, and where he had always continued to reside occasionally), felt themselves called upon, in justice to calumniated innocence, to step forward voluntarily in his defence. "If great abilities, highly improved," (says one of these gentlemen), "if an unstained moral character, and a tender discharge of every filial duty, recommend to confidence and esteem, these belong to Mr Leslie *." The following extract from a letter addressed by the other Clergyman to a Magistrate of Edinburgh, is no less deserving of attention. "Though I have no personal interest connected with the issue of the competition for the Mathematical Class, yet being assured my old acquaintance Mr Macknight would not be the successful candidate; (unless he resigned his Church, which I presumed he would not agree to do), and in compliance

* Letter from the Rev. Spence Oliphant, Minister of Largo, to Sir William Erskine, Bart. 1st March 1805.

compliance with the wishes of some friends who have a claim on any little attention I can show, as well as in justice to Mr Leslie's character, I was induced to send on Friday last a letter addressed to you. His parish-minister also contradicts some reports which have been propagated against his principles. To some persons our vindication may not be quite palatable ; but no timid temporising policy shall ever deter me from paying that tribute which is due to real worth and talents, wherever they are found *."

The opposition to Mr Leslie, however, was not yet at an end. A day or two before the time of his actual election, a discovery was made of a very dangerous doctrine inculcated in a note subjoined to his " Experimental Inquiry into the Nature and Propagation of Heat ;" a doctrine which, it was said, involved all the Atheistical principles of Mr Hume's philosophy. Of the existence of such a note I had never heard before ; nor indeed could I easily conceive how it was possible to introduce the

* Letter from the Rev. Thomas Laurie to Peter Hill, Esq.

the alleged discussion into a work entirely physical. That the charge was completely unfounded, my knowledge of Mr Leslie satisfied me from the beginning ; but I thought it possible, that if, by any accident, he had really been led to venture on metaphysical ground, (which of all my acquaintance he seemed the least likely to do), he might, in discussing some point which he had not duly studied, have stumbled on ambiguous expressions which would require explanation. I accordingly sent for the book, which till then I had never opened, and was not a little astonished, when I found that the passage objected to contained nothing (nothing at least connected with the alleged charge) but what I myself, and many others much better and wiser than me, had openly avowed as our opinions. The passage, in short, is this :

“ Mr Hume is the first, as far as I know, who has treated of causation in a truly philosophic manner. - His Essay on Necessary Connexion seems a model of clear and accurate reasoning. But it was only wanted to dispel the cloud of mystery which had so long darkened that important subject. The unsophisticated sentiments of mankind are in

in perfect unison with the deductions of logic, and imply nothing more at bottom, in the relation of cause and effect, than a *constant and invariable sequence*. This will distinctly appear from a critical examination of language, that great and durable monument of human thought," &c. &c.—*Leslie on Heat*, Note 16. page 521.

If Mr Leslie, in the foregoing extract, had qualified the first sentence by saying, that Mr Hume's *Essay on Necessary Connexion*, (*so far as it relates to physical causes and effects merely*), is a model of clear and accurate reasoning, I do not think it possible that the slightest objection could have been made to his assertion, by any person at all acquainted with the subject, even although he had only read the note in question. But when that note is compared with the passage in the text, which it professes to illustrate, it is evident to a demonstration, that it was of *physical causes* alone that Mr Leslie could be supposed to speak. His argument is directed against the unphilosophical supposition of the agency of invisible *intermedia*, to account for the phenomena of gravitation, (a supposition, by the way, which has been always considered hitherto

therto as one of the most dangerous weapons of the Atheist); and after remarking, that such theories serve only to torture the imagination, without obviating or lessening the difficulty, he concludes with the following very just and striking reflection.

“It is a remarkable and instructive fact in the history of philosophy, that impulsion should have been at one period the only force that was admitted. The motion of a falling stone was certainly not less familiar to the senses than that of a stone which is thrown; but in the latter case, the contact of the hand was observed to precede the flight of the projectile; and this circumstance seemed to fill up the void, and satisfy the imagination. Gravitation sounded like an occult quality; it was necessary to assign some mechanical cause; and if there were no visible impulses to account for the weight of a body, might not that office be performed by some subtile invisible agent? Such was the sway of metaphysical prejudice, that even Newton, forgetting his usual caution, suffered himself to be borne along. *In an evil hour, he threw out those hasty conjectures concerning æther, which have since proved so alluring to*

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superficial thinkers, and which have, in a very sensible degree, impeded the progress of genuine science. So far from resolving weight or pressure into impulse, we have seen that the very reverse takes place, and that impulse itself is only a modification of pressure. This statement has already some distinguished adherents, and must in time become the received opinion. Science has experienced much obstruction from the mysterious notions long entertained concerning causation *." *Ibid.* p. 135.

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* I must request the particular attention of my readers to the very striking similarity between this paragraph and the following passage in Dr Robison's "Proofs of a Conspiracy against all the Religions and Governments of Europe." The form of expression, in one instance, is very nearly the same.

"Were it possible for the departed soul of Newton to feel pain, he would surely recollect with regret that *unhappy hour*, when, provoked by Dr Hooke's charge of plagiarism, he first threw out his whim of a *vibrating æther*, to shew what might be made of a hypothesis; (*for Sir Isaac Newton must be allowed to have paved the way for much of the Atomical Philosophy of the Moderns*). Newton's æther is assumed as a *fac totum* by every precipitate sciolist, who, in despite of logic, and in contradiction to all principles of mechanics, give us theories of muscular motion, of animal sensation, and even of *intelligence and volition*, by the undulations of ætherial fluids."

At the close of this passage Mr Leslie refers to Note xvi. at the end of his volume, which note must therefore be considered as a continuation of the foregoing observations; and of consequence the meaning of the word *causation*, when it occurs in the latter, must be limited, according to every rule of fair interpretation, by that sense in which alone the author could be possibly supposed to employ it in the former.

Such were the impressions with which I first read Mr Leslie's Note, and which to my own mind would have been sufficiently satisfactory, if no farther explanation on his part had been offered. It was however with much additional pleasure I perused a letter, written by Mr Leslie the moment after he received the intelligence of an intended meeting of the Ministers of Edinburgh to oppose his election, and instantly transmitted to the Reverend Dr Hunter, Professor of Divinity in this University. The sentiments which it expressed (as might have been anticipated from Dr Hunter's learning and candour) were honoured with his approbation; and I have little doubt, that the favourable opinion which they led him to form of the

writer, will be sanctioned, almost unanimously, by the judgment of the public.

“ REVEREND SIR,

“ It was only this instant I learned that an opposition to my appointment as Professor of Mathematics is still in contemplation among some members of the Presbytery of Edinburgh, and that the ground of this attack is a Note subjoined to my late publication concerning Heat. Although personally unknown to you, the station you hold in the College as Professor of Divinity, and my entire confidence in your candour and liberality, embolden me to address myself to you, in preference to any other individual, in order to shelter me from the most unjust of all imputations, by calling the attention of the Presbytery to the following particulars.

“ In the first place, I must beg leave to observe, that the Note in question refers entirely to the relation between *Cause and Effect*, considered as an object of physical examination, being only a more full illustration of some reasonings in the text, in opposition to the unphilosophical theories which attempt
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to explain the phenomena of gravitation, &c. by means of invisible æthers; and in so far, it will not be disputed, that I am supported by the unanimous voice of all the soundest philosophers and divines of the present age. The gross misapplication which Mr Hume has made of these premises, to invalidate the argument for the existence of the Deity, it did not fall under my plan to point out in a treatise entirely confined to physical discussions; more particularly as this has been done by Dr Reid and various other writers, in a manner which I conceive to be completely satisfactory to every reader who understands the argument. Had I been aware of the possibility, by my silence on this point, of affording the slightest colour to a misrepresentation of my real sentiments, I should have guarded against it effectually, by following out the speculation a little farther than the nature of my subject seemed to me to require.

“ If the pressing circumstances of the present occasion had permitted me to put my thoughts in writing at greater length, I have the fullest conviction, that my ideas on the question to which the note refers would ap-

pear to coincide, in every essential respect, with those of the most enlightened adversaries of Mr Hume's philosophy. But limited as I am to a few moments of time, I can only disavow (which I do with the greatest sincerity and solemnity) every inference which the ingenuity of my opponents may be pleased to draw from the partial view I have taken of the general doctrine, to the prejudice of those evidences on which the truths of religion are founded. If I live to publish another edition of my work, I pledge myself to show, in an additional paragraph, how grossly and injuriously I have been misrepresented on this occasion. In the mean time, I beg you may make whatever use of this letter appears to you to be necessary or proper.

“ It is painful to be called on, after the habits of intimacy in which I have lived with the most exemplary characters in both parts of the Island, to repel a direct charge of Atheism ; but whatever may be the effect of such calumnies on the minds of strangers, it affords me much consolation to think, that they will be heard with contempt and indignation by those who know the real state
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of my sentiments, and particularly by such as are acquainted with the strictness of those religious principles in which I had the happiness to be educated from my earliest years. "I have only to add, that my book has now been in the hands of the public for ten months, and has passed through the hands of reviewers of the most opposite descriptions and principles, without the slightest censure (as far as I know) upon the note in question. The mark of approbation, which I have recently received from the Royal Society of London, affords, in this respect, a satisfaction still more grateful to my feelings; and when combined with the zeal which that learned body has uniformly manifested in discountenancing every publication which tends in the most distant manner to injure the great interests of religion and morality, it encourages me to hope, that, in the present instance, I shall experience the same candour from the Reverend Presbytery.

"I have the honour to be, &c. &c.

JOHN LESLIE.

To the Rev. Dr Hunter."

As the state of Dr Hunter's health made it impossible for him to attend in person the meeting of his brethren, he transmitted the foregoing letter to the Reverend Dr Grieve; accompanied with his own opinion, that the proceedings against Mr Leslie should be dropped; and (if I have been correctly informed) the letter was received by Dr Grieve, while he and the other Ministers of Edinburgh were actually engaged in the deliberations to which it referred. What passed on that occasion I do not pretend to know with certainty; but one fact is unquestionable, that a majority, if not the whole of the gentlemen present, pronounced Mr Leslie's letter to be unsatisfactory; and instantly deputed four of their number to the Council-chamber, where the Magistrates were already assembled for the purpose of the election, to enter their protest against that measure, till *their* doubts about Mr Leslie's principles should be removed. A long paper (which must have been previously prepared, for it takes no notice of Mr Leslie's letter to Dr Hunter) was accordingly presented to the Patrons of the University. Of this paper the following is a copy,

“ Unto

“ Unto the Right Honourable, the Lord Provost, the Magistrates, and Council of the City of Edinburgh, the Representation of the Ministers of Edinburgh, assembled by citation from Dr Davidson, acting as Senior Minister of the City, sheweth, That by the charter of James the Sixth, erecting the University of Edinburgh, it is expressly provided, that the power of electing Professors in the said University, as committed to the Town-Council, shall be exercised *with the advice of their Ministers*, (“ cum avisamento tamen eorum Ministrorum;”) and that, though this regulation has been, in recent cases, neglected by the Town-Council, there has been a series of practice conformable to it, extending to instances as late as the election of Professor Dalzel in the year , and that of Dr Hunter in the year 1780: That there being at present a vacancy in the chair of the Professor of Mathematics in the University, and the Ministers feeling it their duty to insist upon exercising the privilege with which they are thus invested by the Royal Charter, several of them individually have intimated a desire and intention to this effect to different members of the Town-Council, and

and their sentiments upon this subject have, in consequence, been communicated to the meeting ordinarily denominated the Provost's Committee, but that no intimation has hitherto been received of any intention on the part of the Town-Council to apply, in this case, for the advice of their Ministers: That the Ministers being informed that it is, notwithstanding, the design of the Town-Council to proceed to the election of a Professor of Mathematics on Wednesday the 13th current, feel it their duty to remonstrate against the measure of proceeding to such election till their advice be regularly received, hereby protesting against the validity of any election that may take place in the present circumstances, in the face of this remonstrance: That owing to the Ministers being at present denied the exercise of their legal privilege, they are not regularly and officially informed respecting the candidates for the vacant Chair in the University; but trusting, as for this reason they must, to common uncontradicted report, they have learned from it, and from many of the members of the Town-Council individually, that one of these candidates is Mr John Leslie, author of "An
 " Experimental

“ Experimental Inquiry into the Nature and
 “ Propagation of Heat ;” and they do here-
 by more particularly remonstrate and pro-
 test, in the most solemn manner, against *his*
 being elected to the said vacant Professorship,
 because the said Mr Leslie has avouched to
 the world, and has endeavoured to support
 by argument, an opinion calculated to un-
 dermine the foundation of all religion, both
 natural and revealed : That the Ministers, in
 bringing forward this most serious charge,
 refer to a note which Mr Leslie has subjoin-
 ed to his foresaid “ Inquiry,” commencing
 with these words : “ Mr Hume is the first,
 “ as far as I know, who has treated of cau-
 “ sation in a truly philosophic manner. His
 “ *Essay on Necessary Connexion* seems a model
 “ of clear and accurate reasoning. But it
 “ was only wanted to dispel the cloud of
 “ mystery which had so long darkened that
 “ important subject. The unsophisticated
 “ sentiments of mankind are in perfect uni-
 “ son with the deductions of logic, and im-
 “ ply nothing more at bottom, in the rela-
 “ tion of cause and effect, than a *constant*
 “ *invariable sequence.*” From which words
 it is evident, that Mr Leslie, having, along
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with Mr Hume, DENIED ALL SUCH NECESSARY CONNECTION BETWEEN CAUSE AND EFFECT, AS IMPLIES AN OPERATING PRINCIPLE IN THE CAUSE, has, of course, laid a foundation for rejecting all the argument that is derived from the works of God, to prove either his being or attributes: That it is generally understood, that by the wisdom of our fathers, and in consequence of an ecclesiastical interposition, the original author of this doctrine was rejected on account of it, and the dangerous opinions connected with it, when he offered himself as a candidate for a chair in this University; and that the aspect of the present times does not seem to render it more safe than it formerly was to entrust any who are with reason suspected of infidel principles, with the important charge of the education of youth: That in the event of Mr Leslie being elected to the said vacant Chair, notwithstanding this representation and protest of the Ministers, they hereby reserve to themselves full power of questioning the validity of such an election, and of employing whatever means may to them be found competent for preventing Mr Leslie's *induction* into the office of Professor;

for; with full power, in the event of his induction, to prosecute for his ejection from said office in any competent court, civil or ecclesiastical: That though the Ministers think it their duty to take this step, they have no design nor wish to usurp, or in any degree encroach on the right of patronage, which, in this case, belongs to the Magistrates and Council, and are still willing to receive and attend to any explanation of Mr Leslie's principles that may in this case be offered: That the Ministers conclude with craving, that the Lord Provost, Magistrates, and Council will be pleased to order the whole of this representation and protest to be entered upon their record, and to authorise and appoint their clerk to furnish Dr Grieve, for behoof of the Ministers, with a regular extract of the same. Signed in name and by appointment of the above-mentioned meeting of the Ministers of Edinburgh, by (Signed) HENRY GRIEVE, Preses."

On the legal question started in this paper concerning the alleged right of *avisamentum*, (a question which is now under discussion in the supreme Civil Court of this country), I
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do not presume to give any opinion. It is proper, however, to mention, that, on the 27th of March, (two days previous to the election), a bill of suspension was presented to the Lord Ordinary, praying for "an interdict against the Magistrates and Town-Council of Edinburgh, and the Senatus Academicus of the University, discharging them from proceeding further in the business of Mr Leslie, till the merits of the question shall have been determined by his Lordship;" and that on the same day when this bill was presented, the following interlocutor was pronounced by Lord Armadale. "The Lord Ordinary having considered this bill, and heard the agents for the parties: In respect that the Ministers of Edinburgh, although they by the charter founded on may be entitled to advise with the Magistrates of Edinburgh in the presentation of Professors in the College, have not by said charter any right of negative or interdict upon the Magistrates power of presentation, and that it is not alleged in this bill, that the Ministers have in any case exercised a right of negative or interdict against the Magistrates, refuses to grant any interdict in this case: But appoints the

the bill to be answered as to the discussion of any question betwixt the parties as to their respective rights or interests." It was under the express sanction, therefore, of judicial authority, that the Magistrates determined to proceed in Mr Leslie's election.

No instance, it is believed, is on record, in which an *avisamentum* of the Ministers of Edinburgh was before interposed in the election of a Mathematical Professor: and yet it does not appear, from the list already produced of those who have held that office since the year 1674, that any inconvenience has resulted to the public from the neglect of that ceremony. In former times, however, it must be remembered, when the idea had not been yet conceived of the possibility of uniting Professorships and Ecclesiastical Livings in the same persons, some plausible arguments might have been urged in favour of the expediency of a right of *avisamentum*, which will not apply now, when the Clergy of Edinburgh, by aspiring at every University office which becomes vacant beyond the circles of Medicine and of Law, have so clear an interest in discountenancing the pretensions of whatever lay-candidates shall presume

sume to interfere with the monopoly at which they are aiming. No better illustration of this remark can ever occur, than what has actually happened in the case of Mr Leslie.

The particulars which have been already stated comprehend all the facts to which it seems to me to be necessary, at present, to call the public attention. The weight, however, which the opinion of the Ministers of Edinburgh is justly entitled to possess, on a question so immediately connected with the objects of their professional studies, renders some farther illustration of Mr Leslie's doctrine necessary, for the vindication of those who, from the support which they have given to his interests, must be presumed to have also incurred, in some degree, the censure of that Learned and Reverend Body.

With respect to myself, I have only to observe, that the doctrine which has been so strongly objected to in Mr Leslie's Note, coincides exactly, as far as I am able to judge of it, with what I have myself advanced in a work which has been now for many years in the hands of the public. In proof of this, it is sufficient for me to refer to the second
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section of the first chapter of the *Philosophy of the Human Mind* *, and to the Notes (c) and (d) at the end of that volume. I mention

* The two first paragraphs I must beg leave to transcribe here, as they state a distinction which I consider as of essential importance in the general argument, and which has been too frequently lost sight of by some of our best writers on the subject. To this occasional oversight may be easily traced many of their apparent inconsistencies of opinion.

"It seems now to be pretty generally agreed among philosophers, that there is no instance in which we are able to perceive a necessary connection between two successive events; or to comprehend in what manner the one proceeds from the other, as its cause. From experience indeed we learn, that there are many events which are constantly conjoined, so that the one invariably follows the other: but it is possible, for any thing we know to the contrary, that this connexion, though a constant one, as far as our observation has reached, may not be a necessary connexion;—nay, it is possible, that there may be no necessary connexions among any of the phenomena we see: and if there are any such connexions existing, we may rest assured that we shall never be able to discover them.

"I shall endeavour to shew in another part of this work, that the doctrine I have now stated does not lead to those sceptical conclusions, concerning the existence of a First Cause, which an author of great ingenuity has attempted to deduce from it. At present, it is sufficient for my purpose to remark, that the word *cause* is used, both by philo-

tion these references, not because I have the presumption to suppose that my sentiments on a philosophical question can be of any use as a sanction to the speculations of another writer, but merely to show, that in defending Mr Leslie I have adhered steadily to the principles which I have always maintained.

In the first of the notes now referred to, I have observed, that "in consequence of the inferences which Mr Hume has deduced from his doctrine concerning Cause and Effect, some later writers have been led to dispute its

sophers and the vulgar, in two senses which are widely different. When it is said, that every change in nature indicates the operation of a cause, the word *cause* expresses something which is supposed to be necessarily connected with the change, and without which it could not have happened. This may be called the *metaphysical* meaning of the word, and such causes may be called METAPHYSICAL OR EFFICIENT CAUSES. In natural philosophy, however, when we speak of one thing being the cause of another, all that we mean is, that the two are constantly conjoined; so that, when we see the one, we may expect the other. These conjunctions we learn from experience alone; and without an acquaintance with them, we could not accommodate our conduct to the established course of nature. The causes which are the objects of our investigation in natural philosophy may, for the sake of distinction, be called PHYSICAL CAUSES." *Elements of the Philosophy of the Human Mind*, p. 72. 2d Edition.

its truth; not perceiving, that the fallacy of this part of his system does not lie in his premises, but in the conclusion which he draws from them."

I have also observed, that "many writers before Mr Hume had remarked, that 'the object of the physical inquirer is not to trace necessary connexions, or to ascertain the efficient causes of phenomena;' and that, till the publication of Mr Hume's writings, no person, so far as I know, ever suspected this proposition to have a dangerous tendency." A variety of passages, containing the very same doctrine, from Divines and Philosophers of the most unquestionable orthodoxy, are there quoted; and I must acknowledge, that I was sanguine enough to hope, that they would be of use in diverting the future attacks of Mr Hume's opponents from that part of his reasoning which is invulnerable, to the illogical application which he has made of it to establish a most dangerous conclusion altogether unconnected with it. As this pamphlet, however, may come into the hands of some to whom my work is unknown, I think it necessary, in justice to myself, as well as from a deep sense of the infinite importance

of the argument, to insert here a few of the passages which I have now alluded to: And, with the same views, I shall avail myself of this opportunity to produce a few additional authorities of a similar nature.

In the front of these quotations, I shall place the very first aphorism of Lord Bacon's *Novum Organon*; an aphorism which will be acknowledged, by all who are able to form a judgment of its import, to express precisely the same doctrine with Mr Leslie's note, and in a manner still more strong and unqualified.

“HOMO NATURÆ MINISTER ET INTERPRES TANTUM FACIT ET INTELLIGIT QUANTUM DE NATURÆ ORDINE RE VEL MENTE OBSERVAVERIT: NEC AMPLIUS SCIT, AUT POTEST.”

This aphorism, it deserves to be remarked, is not a *metaphysical*, but a *logical* principle: nay, it is the *cardinal principle*, on which the whole logic of the Experimental or Inductive Philosophy of the moderns hinges. It is, at the same time, a principle, of which even Bacon's professed followers frequently lose sight, particularly in those hypothetical speculations about invisible *intermedia*, which
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it is Mr Leslie's object, in this part of his work, to combat*. That part of Mr Hume's essay which relates to physical causes is unquestionably the clearest and fullest commentary on it which has yet appeared; and in this point of view, it was justly entitled to the praise which it has received from Mr Leslie. I only think that he has ascribed more to Mr Hume than what was really his due, when he bestows on him (or at least seems to do so) the praise of entire originality in his ideas. But Dr Beattie and many others have been guilty of the same oversight†. Indeed, if I am not much mistaken,

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ken,

* I have not the *Encyclopædia Britannica* at hand, and cannot venture on references from memory. But whoever consults some of the excellent articles in that work contributed by the late Professor Robison, will find numerous allusions to this very doctrine, considered in its connexion with physics; more particularly with the fundamental principles of one of his most favourite physical speculations,—the *New Theory of Natural Philosophy*, proposed by Father Boscovich.

† It is a curious circumstance in philosophical history, that while Mr Hume was rendering so essential a service to physical science by that part of his Essay which is alluded to above, he seems to have had scarcely any idea himself of *this* truly important application of his reasonings.

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ken, I was myself the first writer, who, since the publication of the *Treatise on Human Nature*, attempted to shew, that whatever merit we may allow to Mr Hume's illustrations, he had been completely anticipated by authors of a more early date, in the essential principle which is at present in question*.

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This I conclude, not only from his total silence with respect to Lord Bacon's plan of investigation, (which, if it does not explicitly state Mr Hume's doctrine concerning our ignorance of necessary connexions, takes it for granted in every step), but from the following passage in one of his letters to the late Sir Gilbert Elliot, Baronet, which, by the favour of Lord Minto, is at present in my possession. The contempt with which he there speaks of Mathematical studies affords the most satisfactory evidence of the little attention he had paid to the Natural Philosophy of the Newtonian school.

"I am sorry our correspondence should lead us into these abstract speculations. I have thought, and read, and composed very little on such questions of late. Morals, politics, and literature have employed all my time; but still the other topics I must think more curious, important, entertaining, and useful, than any Geometry that is deeper than Euclid."—This letter (for it is without a date) appears to have been written about 1750 or 1751.

* An opinion coinciding remarkably with that which I am now endeavouring to vindicate, is ascribed to Socrates by Xenophon; and certainly, when we compare it with the

It is proper for me to add, that the foregoing aphorism of Lord Bacon plainly refers, like the note of Mr Leslie, to *the objects of Natural Philosophy alone*, otherwise it would not only *imply* by inference, but explicitly *assert*, that we know nothing whatever concerning the existence of the Deity, and his attributes. How perfectly consistent, at the

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same

the state of science at the time, it reflects no small honour on his philosophical sagacity. The Sophists, in ancient Greece, it would appear, like their successors in modern times, entertained some confused notions about a *necessary connexion between cause and effect, implying the existence of an operating principle in the cause*. They inquired (says Xenophon, "ΤΙΣΙΝ ΑΝΑΓΚΑΙΣ ἕκαστα γίνεται τῶν ὑρανίων." The same excellent writer informs us of the light in which Socrates regarded those by whom such notions were adopted: "ΑΛΛΑ ΚΑΙ ΤΟΥΣ ΦΡΟΝΤΙΖΟΝΤΑΣ ΤΑ ΤΟΙ-ΑΥΤΑ ΜΩΡΑΙΝΟΝΤΑΣ ΕΠΕΔΕΙΚΝΥΕΝ." Afterwards he adds, "Εθαυμάζε δέ, εἰ μὴ φανερόν αὐτοῖς ἔστιν, ὅτι ταῦτα ἢ δυνατόν ἔστιν ἀνθρώποις εὐρεῖν."

I had almost forgot to mention, that *Ernesti* translates *αναγκη*, *Vis et ordo naturalis quo res sunt*; which paraphrase, when combined with the Greek word to which it refers, cannot be better rendered into our language, than in the words already quoted from the "Representation and Protest," SUCH A NECESSARY CONNEXION BETWEEN CAUSE AND EFFECT AS IMPLIES AN OPERATING PRINCIPLE IN THE CAUSE."

same time, or rather how closely connected with each other, are the fundamental truths of religion and Bacon's general proposition, (when that proposition is understood with the limitations which the nature of the subject suggests obviously to every attentive and candid reader), will appear sufficiently from the following passages, extracted from authors prior to Mr Hume, all of whom seem to have had a clear perception of that leading principle in his Essay which has chiefly attracted the notice of succeeding philosophers. These passages, (the greater part of which are from English divines, but which, I am sure, will not, on that account, meet with the less respect from any one party connected with the Established Church of Scotland), the hurry in which I now write obliges me to transcribe simply, without any comment.

“ If we except the mutual causality and dependence of the terms of a mathematical demonstration, I do not think that there is any other causality in the nature of things wherein a necessary consequence can be founded. Logicians do indeed boast of I do
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not know what kind of demonstrations from external causes, either efficient or final, but without being able to shew any one genuine example of any such: nay, I imagine it is impossible for them to do so. For there can be no such connection of an external efficient cause* with its effect, (at least none such can be understood by us), through which, strictly speaking, the effect is necessarily supposed by the supposition of the efficient cause, or any determinate cause by the supposition of the effect. Nay, there can be no efficient cause, in the nature of things of a philosophical consideration which is altogether necessary. *For every action of an efficient cause (as well as its consequent effect) depends upon the free will and power of Almighty God, who can hinder the influx and efficacy of any cause at his pleasure; neither is there any effect so confined to one cause, but it may be produced by perhaps innumerable others.* Hence it is possible that there may be such a cause without
out

* Would not Dr Barrow have conveyed his meaning still more clearly and unequivocally, if, instead of the phrase *external efficient cause*, he had substituted some such phrase as *physical cause*, agreeably to the distinction which I have already pointed out in pp. 49. and 50?

out a subsequent effect, or such an effect, and no peculiar cause to afford any thing to its existence. There can therefore be no argumentation from an efficient cause to the effect, or contrarily from an effect to the cause, which is lawfully necessary."

*Barrow's * Mathematical Lectures read at Cambridge.*

" *All*

* The soundness of Dr Barrow's religious principles was, I believe, never questioned; and although the notions of church-government in which he had been educated would (according to the *present* views of the Presbytery of Edinburgh) have opposed an unsurmountable bar to his appointment as Mathematical Professor in this University, it is an acknowledged fact, that he discharged the duties of that office at Cambridge with no common ability and success.

A few biographical particulars with respect to this truly great man, one of the very first names in Mathematical science, and one of the chief lights of the English Church, are not altogether foreign to a subject discussed in a former part of this pamphlet; and they may perhaps suggest useful reflections to some persons not likely to enter deeply into his philosophical views. The following are transcribed literally from the succinct account of his life in Dr Hutton's Mathematical Dictionary.

" On Barrow's return from the continent, in 1659, he was episcopally ordained by Bishop Brownrig; and in 1660, he was chosen to the Greek professorship at Cambridge. In
July

" All things that are done in the world, are done either immediately by God himself, or by created intelligent beings: matter being evidently not at all capable of any laws or powers whatsoever, any more than it is capable of intelligence ; excepting only this one negative power, that every part of it will, of itself, always and necessarily continue in that state, whether of rest or motion, wherein it at present is. So that all those things which we commonly say are the effects of the natural

July 1662, he was elected Professor of Geometry in Gresham College ; in which station he not only discharged his own duty, but supplied likewise the absence of Dr Pope, the Astronomy Professor. In 1663, the executors of Mr Lucas having, according to his appointment, founded a Mathematical Lecture at Cambridge, they selected Mr Barrow for the first Professor ; *and though his two professorships were not incompatible with each other, he chose to resign that of Gresham College, which he did May the 20th 1664. In 1669, he resigned the Mathematical Chair to his learned friend Mr Isaac Newton, being now determined to quit the study of Mathematics for that of Divinity. On quitting his professorship, he had only his fellowship of Trinity College."* The happy effects of this wise and disinterested concentration of his powers may be traced in those inestimable and voluminous writings, which, notwithstanding his short life, he bequeathed to posterity. Dr Barrow died in the 47th year of his age.

natural powers of matter, and laws of motion; of gravitation, attraction, or the like; are indeed (if we will speak strictly and properly) *the effects of God's acting upon matter continually and every moment, either immediately by himself, or mediately by some created intelligent beings.* Consequently there is no such thing, as what men commonly call the Course of Nature, or the Powers of Nature. *The Course of Nature, truly and properly speaking, is nothing else but the will of God producing certain effects in a continued, regular, constant, and uniform manner."*

Dr Clarke's Works, v. 2. p. 698. Fol. Edit.

"It is in general no more than effects that the most knowing are acquainted with; for as to causes, they are as entirely in the dark as the most ignorant. What are the laws by which matter acts on matter, but certain effects, which some having observed to be frequently repeated, have reduced to general rules."

Butler's Sermons.

"The laws of attraction and repulsion are to be regarded as laws of motion, and these only as rules or methods observed in the productions

tions of natural effects, the efficient and final causes whereof are not of mechanical consideration. Certainly if the explaining a phenomenon be to assign its proper efficient and final cause, it should seem the mechanical philosophers never explained any thing; their province being only to discover the laws of nature; that is, the general rules and methods of motion; and to account for particular phenomena, by reducing them under, or shewing their conformity to such general rules."

Siris, or Philosophical Inquiries concerning the Virtues of Tar Water, by Dr Berkeley, Bishop of Cloyne.

"There is a certain analogy, constancy, and uniformity in the phenomena or appearances of nature, which are a foundation for general rules, and these are a grammar for the understanding of nature, or that series of effects in the visible world, whereby we are enabled to see what will come to pass in the natural course of things. Plotinus observes, in his third Ennead, that the art of presaging is, in some sort, the reading of natural letters denoting order, and that so far forth as analogy obtains in the universe, there

there may be vaticination. And in reality, he that foretells the motions of the planets, or the effects of medicines, or the result of chemical or mechanical experiments, may be said to do it by natural vaticination."

* * * * *

"As the natural connexion of signs with the things signified is regular and constant, it forms a sort of rational discourse, and is therefore the immediate effect of an intelligent cause."

Ib. pp. 120. 121.

"Here it is worth observing, that all the real true knowledge we have of nature is entirely *experimental*; infomuch that how strange soever the assertion seems, we may lay this down as the first fundamental unerring rule in physics, *that it is not within the compass of human understanding, to assign a purely speculative reason for any one phenomenon in nature*; as why grass is green, or snow is white; why fire burns, or cold congeals. By a *speculative reason*, I mean assigning an immediate *efficient cause a priori*, together with the manner of its operation, for any effect whatsoever purely natural. We find indeed, by observation and experience, that

that such and such effects *are* produced; but when we attempt to think of the reason *why* and the manner *how* the causes work those effects, then we are at a stand, and all our reasoning is precarious, or at best but probable conjecture."

"If any man is surprised at this, let him instance in some speculative reason he can give for any natural phenomenon; and how plausible soever it appears to him at first, he will, upon weighing it thoroughly, find it at last resolved into nothing more than mere observation and experiment, and will perceive that those expressions generally used to describe the *cause* or manner of the productions of nature, do really signify nothing more than the *effects*."

"*The Procedure, Extent, and Limits of Human Understanding.*" London, 1737, 3d Ed.

In this extract the doctrine in question is stated with such an uncommon clearness and precision, that I confess it was not without some surprise I first read it, after all that I knew had been previously alleged to the same purpose by Barrow, Berkeley, and others. Of the author of the work now referred

ferred to, I know nothing; nor was I even acquainted with its title, till I met with the first sentence of the foregoing passage in the preface to the second volume of *Hales's Statistical Essays*; where, it may be worth while to add, it is not only quoted, but sanctioned by the approbation of that pious and ingenious writer*.

If any one of the foregoing passages were to be judged of merely from the sentences which relate to those established conjunctions about which Natural Philosophy is conversant, it would justify precisely the same interpretation which has been put on Mr Leslie's Note; and yet, it appears how intimately connected this *now* obnoxious opinion was, in the minds of these excellent writers, with the most devout impressions concerning the existence and the power of God. Nor are the clauses which I have printed in *Italics* introduced to qualify the foregoing doctrine,

or

* If any person doubts still of the consistency of this doctrine with the most orthodox opinions, I must request him to look into the work last quoted, and into another book by the same author, entitled, *Divine Analogy*.—I have heard them ascribed to Dr Peter Brown, Bishop of Cork.

or to prevent misapprehensions of its apparent tendency. They are stated as the obvious and inevitable *consequences* to which that doctrine leads. The greater part of these writers, it must at the same time be remembered, were treating professedly of subjects, in the discussion of which the establishment of the theological inference was their professed object; whereas the title of Mr Leslie's book announces "An Experimental Inquiry concerning the Nature and Propagation of Heat;" an inquiry, in which the *premises* of the argument alone could be of any use for the illustration of his theories, and in which the slightest allusion to Mr Hume's *sceptical conclusion* would have favoured of insanity.

Perhaps, however, it may be alleged, that the passages hitherto quoted are all from authors *prior* to Mr Hume, and who were not fully aware of the consequences which he was afterwards to deduce from them. It may be proper, therefore, to subjoin a few other authorities from Philosophers and Divines of a later date.

"What we observe by our external senses,
is properly no more than that one thing fol-
E lows

lows another, or the *constant conjunction* of certain events; as of the melting of wax, with placing it in the flame of a candle; and, in general, of such and such alterations in the qualities of bodies, with such and such circumstances of their situation. That one thing is the *cause* of another, or *produces* it by its own efficacy and operation, we never see."

Review of the Principal Questions and Difficulties in Morals, by Richard Price, D. D. p. 30. 2d Edit.

In a note on this passage, the author remarks, that "several observations to this purpose are made by *Malebranche*, who maintained, that nothing in nature is ever the proper *cause* or *efficient* of another, but only the *occasion*; the Deity, according to him, being the sole agent in all effects and events. But *Mr Hume* (Dr Price adds) *has more particularly insisted on the observation here made, with a very different view.*" *Ibid.*

"With regard to the phenomena of nature, the important end of knowing their causes, besides gratifying our curiosity, is, that we may know when to expect them, or how to bring them about. This is very often
of

of real importance in life; and this purpose is served, by knowing *what by the course of nature goes before them, and is connected with them; and this therefore we call the cause of such a phenomenon.*"

"If a magnet be brought near to a mariner's compass, the needle, which was before at rest, immediately begins to move, and bends its course towards the magnet, or perhaps the contrary way. If an unlearned sailor is asked the cause of this motion of the needle, he is at no loss for an answer. He tells you it is the magnet; and the proof is clear; for remove the magnet, and the effect ceases; bring it near, and the effect is again produced. It is therefore evident to sense that the magnet is the cause of this effect.

"A Cartesian philosopher enters deeper into the cause of this phenomenon. He observes that the magnet does not touch the needle, and therefore can give it no impulse. He pities the ignorance of the sailor. The effect is produced by magnetic effluvia or subtile matter, which passes from the magnet to the needle, and forces it from its place. He can even show you in a fight, where these magnetic effluvia issue from the mag-

net, what round they take, and what way they return home again: and thus he thinks he comprehends perfectly how, and by what cause, the motion of the needle is produced.

“ A Newtonian philosopher enquires what proof can be offered for the existence of magnetic effluvia, and can find none. He therefore holds it as a fiction, a hypothesis; and he has learned that hypotheses ought to have no place in the philosophy of nature. He confesses his ignorance of the real cause of this motion, and thinks that his business as a philosopher is only to find from experiment the laws by which it is regulated in all cases.

“ These three persons differ much in their sentiments with regard to the real cause of this phenomenon, and the man who knows most is he who is sensible that he knows nothing of the matter.”

Reid on the Active Powers, p. 44.

“ It is to this day problematical, whether all the phenomena of the material system be produced by the immediate operation of the First Cause, according to the laws which his wisdom

wisdom determined ; or whether subordinate causes are employed by him in the operations of nature ; and if they be, what their nature, their number, and their differences are ? and whether, in all cases, they act by commission, or in some according to their discretion ?”

“ When we are so much in the dark with regard to the real causes of the phenomena of nature, and have a strong desire to know them, it is not strange that ingenious men should form numberless conjectures and theories, by which the soul, hungering for knowledge, is fed with chaff instead of wheat.

“ In a very ancient system, love and strife were made the causes of things : In the Pythagorean and Platonic system, matter, ideas, and intelligent mind : By Aristotle, matter, form, and privation. Des Cartes thought, that matter, and a certain quantity of motion, given at first by the Almighty, are sufficient to account for all the phenomena of the natural world. Leibnitz, that the earth is made up of monades, active and percipient, which, by their active power received

at first, produce all the changes they undergo.

“ While men thus wandered in the dark in search of causes, unwilling to confess their disappointment, they vainly conceived every thing they stumbled upon to be a cause; and the proper notion of a cause is lost, by giving the name to numberless things which neither are nor can be causes.”

“ This confusion of various things under the name of causes is the more easily tolerated, because however hurtful it may be to sound philosophy, it has little influence upon the concerns of life. A constant antecedent or concomitant of the phenomenon whose cause is sought, may answer the purpose of the enquirer, as well as if the real cause were known. Thus, a sailor desires to know the cause of the tides, that he may know when to expect high-water: he is told, that it is high-water when the moon is so many hours past the meridian; and now he thinks he knows the cause of the tides. What he takes for the cause answers his purpose, and his mistake does him no harm.

“ Those philosophers seem to have had the justest views of nature, as well as of the weakness

weakness of human understanding, who, giving up the pretence of discovering the causes of the operations of nature, have applied themselves to discover, by observation and experiment, the rules or laws of nature, according to which the phenomena of nature are produced.

“ In compliance with custom, or perhaps to gratify the avidity of knowing the causes of things, we call the laws of nature, causes and active powers. So we speak of the powers of gravitation, of magnetism, of electricity.

“ We call them causes of many of the phenomena of nature ; *and such they are esteemed by the ignorant and half learned.*

“ But those of juster discernment see that laws of nature are not agents. They are not endowed with active power, and therefore cannot be causes in the proper sense. *They are only the rules according to which the unknown cause acts.*” *Ibid.* 286, 287, 288.

1. “ There is no necessary connexion known to us between cause and effect.

“ Can any person by reasoning, independent of experience, from the cause deduce

the effect? No one ever has; and consequently, *to mankind there is no necessary connexion known between cause and effect.*

2. "Is it probable that any necessary connexion is contained in their own nature?"

"When the Omnipotent created the world, he probably assigned to all things in it their connexion during their existence; *e. g.* 1. That action and reaction should be equal and contrary. 2. That one body striking another should, in given circumstances, communicate to it a certain degree of motion. 3. That some ideas in the mind should always accompany or succeed others. But could not the Almighty have assigned different connexions? From his omnipotence, I argue that he could; *and if this could have been the case, there is no connexion in their own nature between cause and effect*; and consequently the latter is not necessarily subsequent to or deducible from the former, but entirely dependent on the Almighty fiat."

*Essay on the Principles of Human Knowledge, by E. Waring, M. D. Lucasian Professor of Mathematics in the University of Cambridge. (Printed in 1794.)**

"Science

* That the zeal of this author (although a Lay-Professor of Mathematics,) for the peculiar doctrines of Christianity,

“ Science is sometimes defined, the knowledge of causes and effects in nature. But cause and effect, so far as we are enabled to conceive their relation, are terms of the same meaning with *law of nature, and its phenomena.*”

Principles of Moral and Political Science,
by Dr Ferguson, vol. 1. p. 116.

“ Those reasoners are in a great mistake, who think to supersede the existence of Mind and Providence, by tracing the operations of nature to their physical laws; for *physical law is the characteristic operation of unerring mind.*”

Ib. p. 180.

“ Surely the lessons are precious, by which Newton has taught us a system of doctrine which cannot be shaken, or share that fluctuation which has attached to all other speculations of curious man. But *this* cannot fail us, because it is nothing but a well-ordered narration of facts, presenting the

anity, was not inferior to that of any one of Mr Leslie's opponents, will be acknowledged by all who have perused the Essay referred to above.

the events of nature to us in a way that at once points out their subordination, and most of their relations. While the magnificence of the objects commands respect, and perhaps raises our opinion of the excellence of human reason as high as is justifiable, we should ever keep in mind, that Newton's success was owing to the modesty of his procedure. He peremptorily resisted all disposition to speculate beyond the province of human intellect, *conscious that all attainable science consisted in carefully ascertaining Nature's own laws; and that every attempt to explain an ultimate law of nature, by assigning its cause, is absurd in itself, against the acknowledged laws of judgment, and will most certainly lead to error.* It is only by following his example that we can hope for his success."

Robison's Mechanical Philosophy, p. 672.

After the strong and explicit terms in which so many of our most profound and pious philosophers have expressed themselves on this subject, it may be reasonably presumed, that the Ministers of Edinburgh weighed the argument with deep and serious attention, before they ventured on the solemn
assertion

assertion contained in the following sentence; "That Mr Leslie having, along with Mr Hume, DENIED ALL SUCH NECESSARY CONNECTION BETWEEN CAUSE AND EFFECT, AS IMPLIES AN OPERATING PRINCIPLE IN THE CAUSE, has, of course, laid a foundation for rejecting all the argument that is derived from the works of God, to prove either his being or attributes."

The authors of this paper must have been sensible, that if the foregoing inference be as evidently just as they have stated it to be, it not only involves the complete ruin of Mr Leslie's character and hopes, but that it rests the whole evidences of religion, both natural and revealed, on the *falseness* of a proposition, which has been unfortunately sanctioned by the authority of all those writers who have been hitherto regarded as the most able and successful defenders of our faith. The sentence, therefore, which has been now quoted, is entitled to all the attention which can possibly be bestowed on it. It must have been well and cautiously pondered before it was committed to paper, and may be fairly considered as the deliberate result of the concentrated wisdom of the Reverend Gentlemen

men by whom the *Representation and Protest* is subscribed.

By affirming, " That the unsophisticated sentiments of mankind concerning necessary connexion are in perfect unison with the deductions of logic, and imply nothing more at bottom, in the relation of cause and effect, than a *constant invariable sequence*," Mr Leslie is accused of having, along with Mr Hume, DENIED ALL SUCH NECESSARY CONNEXION BETWEEN CAUSE AND EFFECT AS IMPLIES AN OPERATING PRINCIPLE IN THE CAUSE. Whether Mr Leslie will be disposed or not to admit this as a fair comment on his words, I am not authorised to say ; but one thing is indisputable, that the proposition which he is here accused of *denying*, expresses, in the clearest and most precise terms which the authors were able to employ, what they wished to be understood as their own opinion on the point in question. This opinion too, it must be recollected, is essentially connected (according to their own statement) with the most important conclusion which can possibly employ human reason ; and therefore, no tenderness for individuals, whatever their station may be, must be allowed

lowed to interfere with a free discussion of its real import, and of the consequences to which it leads.

With respect to the real import of the proposition, I acknowledge I am not a little in the dark; and although in my attempts to unriddle it, I have requested the aid of some of the gravest divines and best philosophers in this country, I have not yet heard a single conjecture offered, from which I could derive the smallest assistance. What idea are we to annex to the following words, *Such a necessary connexion between cause and effect as implies an operating principle in the cause?* That these words are altogether unintelligible, I do not presume to assert; but surely, after my own failure in the interpretation, and that of so many of my friends, I may be allowed to say, that a meaning somewhat less obscure and oracular might have been expected in the statement of a doctrine, which it has been pronounced so heretical and impious to *deny*; and to which Mr Leslie has been required, with a zeal not inferior to that which has been lately displayed in favour of the standards of our national faith, to subscribe his assent.

Without,

Without, however, venturing to pronounce with confidence on the sense in which the authors of this *new article of belief* wish it to be understood, it may, I think, be fairly presumed, from the immediate contrast in which it is stated to Mr Leslie's heresy, that it asserts the existence of a *necessary connexion* between those causes and effects, in the relation of which he affirms, that the human mind can trace nothing more than an *invariable sequence*.

I suspect, that the consequences of this tenet have not been duly considered; and I am not so uncandid as to impute to any man (particularly on a subject of so deeply serious a nature) conclusions of which there is a probability that he was not fully aware.—I am unwilling, in truth, to follow out the argument to its full extent; and shall therefore content myself with recommending to the attentive consideration of Mr Leslie's opponents, the following truly philosophical observation of my learned friend and colleague Dr Gregory.

“ Supposing that some of the relations of event, particularly that of physical cause and effect, comprehending the circumstance of their
their

their *constant conjunction*, as it has been very properly called, which seems always to be implied in strict physical reasonings, as well as in the common notions and actual conduct of mankind, are necessary, like those of quantity, which are the objects of mathematical reasoning; the opinion, that there *must* be an exertion of power or activity to produce such events, would be not merely erroneous, but absurd: for, on that supposition, no power or agency would be requisite to produce them, any more than to produce the relations of geometry; and no power in heaven or earth could prevent them from being what they are."

Philosophical and Literary Essays; by James Gregory, M. D. Introd. p. 221.

That a necessary connexion has been supposed to exist among physical events by many philosophers whom it would be unfair to charge with Atheism, I very readily admit. It was the doctrine of the ancient Fatalists, that all things above and below are linked together by an inevitable necessity; but they did not, therefore, deny the existence of God. "*Cum Fatum (says Seneca) nihil aliud sit quam series implexa causarum, ille est primæ omnium causa, ex qua cetera pendunt.*"

dent." But this doctrine, if not Atheistical, has been condemned by the highest authorities as of the most dangerous tendency to religion. The following are the words of the great Dr Clarke.

"The notion, of the world's being a great machine, going on without the interposition of God, as a clock continues to go without the assistance of a clockmaker, is the notion of materialism and fate, and tends (under pretence of making God a supramundane intelligence), to exclude Providence and God's government in reality out of the world. And by the same reason that a philosopher can represent all things going on from the beginning of the creation, without any government or interposition of Providence; a sceptic will easily argue still farther backwards, and suppose that things have from eternity gone on (as they now do), without any true creation or author at all, but only what such arguers call *allwise*, and *eternal nature*."

Clarke's First Reply to Leibnitz, p. 15.

It is much to be regretted, that the same metaphorical language on this subject, which was used by the ancient Fatalists, should still
continue

continue to be occasionally employed even by some of those philosophers whose opinions, as stated by themselves in other parts of their writings, appear to have coincided exactly with that now quoted from Dr Clarke. The great merit of Mr Hume's Essay on Necessary Connexion consists in the clearness and fulness with which he has exposed the inaccuracy of this language; and whatever his own views were in the statement of his argument, candour forces us to acknowledge, that, while it is calculated to keep steadily in the view of Natural Philosophers the proper objects of their physical pursuits, it furnishes new and powerful weapons to the friends of religion, if they were sufficiently aware of their importance. While we condemn therefore his *conclusion* as sophistical and false, we are called upon, not only by that justice which is due to his philosophical abilities, but by our fidelity to the cause for which we profess to combat, not to involve *both conclusion and premises* in the same condemnation.

I have said, that the common language concerning cause and effect is entirely metaphorical. It is in truth "borrowed by analogy"

(as I have elsewhere observed) "from material objects. Some of these we see scattered about us, without any connexion between them; so that one of them may be removed from its place without disturbing the rest. We can however, by means of some material vinculum, connect two or more objects together; so that whenever the one is moved, the other shall follow. In like manner, we see some events which occasionally follow one another, and which are occasionally disjoined; we see others where the succession is constant and invariable. The former we conceive to be analogous to objects which are loose and unconnected with each other, and whose contiguity in place is owing merely to accidental position; the others, to objects which are tied together by a material vinculum. Hence we transfer to such events the same language which we apply to connected objects. We speak of a connexion between two events, and of a chain of causes and effects."

"This language has even been adopted by philosophers, and by Atheists as well as Theists. The latter have represented natural events as parts of a great chain, the highest link

link of which is supported by the Deity. The former have pretended that there is no absurdity in supposing the number of links to be infinite. Mr Hume had the merit of shewing clearly to philosophers, that our common language with respect to cause and effect is merely analogical, and that if there be any links among physical events, they must for ever remain invisible to us. If this part of his system be admitted, and if at the same time we admit the authority of that principle of the mind which leads us to refer every change to an efficient cause, Mr Hume's doctrine seems to be more favourable to Theism, than even the common notions upon this subject, as it keeps the Deity always in view, not only as the first, but as the constantly operating cause in nature, and as the great connecting principle among all the various phenomena which we observe."

Elements of the Philosophy of the Human Mind, p. 74.

and *Note D. p. 549.*

Lord Bacon himself, altho' he sometimes alludes to the allegory of the poets, which represents the series of physical causes and effects under the similitude of a *chain*, of which the highest link is fastened to Jupiter's chair ;

and altho' his metaphysical notions concerning their mutual relation seem to have been much obscured by the scholastic phraseology current in his age, yet appears, on the whole, to have been strongly impressed with the idea, that as we know nothing of physical causes and effects but what we learn from experience, so the established order we see is the effect of the constant agency of the Supreme Mind. Hence that sublime expression which he so frequently borrows from the sacred writings: *Opus quod operatur Deus a principio usque ad finem*; a branch of knowledge which he expressly describes as placed beyond the examination of the human faculties.

But whence, it may be asked, am I entitled to suppose that Mr Leslie's opponents deny Mr Hume's *premises*? I answer, from their own words in the passage now under consideration. If any farther evidence should be required on this point, a satisfactory argument is afforded by that rule of interpretation which they have sanctioned by their own practice. If Mr Leslie, when his subject led him to speak and to think about physical causes only, is to be presumed, from his unqualified praise of that part of Mr Hume's Essay

which

which relates to their mutual relation, to have also signified *by his silence* his assent to every inference to which these premises appeared to the original author to lead, his antagonists must *a fortiori* have been understood, *from their total silence* concerning what is sound and highly important in his premises, to have extended their unqualified censure to these, as well as to his conclusion. As the matter, however, stands, we have no occasion to have recourse to presumptive proof: their own words explicitly assert, that there exists a *necessary connexion between cause and effect* in those cases in which Mr Leslie confesses that he can only trace a *constant and invariable sequence*.

It still remains for me to take some notice of that qualifying clause with which the existence of this *necessary connexion* is asserted: "*Such a necessary connexion between cause and effect as implies an operating principle in the cause.*"

When I was first informed of this extraordinary sentence, I could not help suspecting that some mistake had been committed by the friend from whom I received my intelligence. I thought it probable, at least, that the word *necessary* was an accidental interpolation, and

that the objection stated to Mr Leslie amounted to this, "That he denied such a connexion between *physical* causes and effects * as implies the existence of an *efficient* cause." Even on this supposition, it is true, that the objection would have been inapplicable to Mr Leslie, who certainly has said nothing to give the slightest colour to such an inference; but the proposition would have had a merit (which it does not actually possess) of being not inconsistent with itself, nor absolutely incomprehensible. Some indeed, it is possible, might have been inclined to think, that by introducing the phrase of "an operating principle in the cause," no great improvement had been made on our more common forms of expression; and that it was not very favourable to perspicuity to employ the word *cause* within the compass of three lines, in two senses so essentially different from each other.

Let

* That it is of the connexion between *physical* causes and effects that the authors of this sentence are speaking, is manifest from this, that it is among such causes and effects alone that any thing like sequence or succession can be observed.

Let us now consider the charge against Mr Leslie as it really stands:—That “ he denies such a necessary connexion between cause and effect as implies an operating principle in the cause.”

And here we are immediately stopped by another ambiguity. I have already endeavoured to show, that it is between *physical* causes and effects that the connexion mentioned in the first part of the clause (and which the authors of this *Credendum* call a *necessary* connexion) is supposed to exist. In what sense, then, are we to understand the word *cause* in the conclusion of the sentence? and to what species of cause is *the operating principle* to be ascribed? It cannot, I should think, be to the Supreme Being; for the connexion is stated to be *necessary*, and, as such, independent of his will. “ *Necessity* (says Dr Clarke*) excludes all possibility of non-existence, and admits of no limits; is inconsistent with preference, and independent on any will:” or (as Dr Gregory has extremely well expressed the same thing, in a passage already quoted) “ were the relations
F 4 of

* Defence of Clarke's Fifth Reply to Leibnitz.

of cause and effect, comprehending the circumstance of their *constant conjunction*, to be *necessary*, like those of quantity, which are the objects of mathematical reasoning, the opinion, that there *must* be an exertion of power to produce such events, would be not merely erroneous, but absurd: for on that supposition, no power would be requisite to produce them, any more than to produce the relations of geometry; and no power in heaven or earth could prevent them from being what they are."

The only supposition, then, that remains, is, that the operating principle is to be understood to belong to the physical cause itself, connecting it necessarily with the effect; or, in other words, that physical and efficient causes are one and the same. And yet (although I declare, *bona fide*, that this is the most reasonable interpretation I can put on the sentence) I cannot bring myself to suppose that it was the opinion which its authors meant to express; for they could not fail to be aware, that it is the very essence of the system of Spinoza; a system which, although it acknowledges in words the existence of a Deity, is, in truth, by
means

means of this very doctrine combined with the supposition of a *necessary* connexion between causes and effects, subversive of that fundamental principle of all religion; and has accordingly, on account of this insidious language, been always regarded by the best judges as one of the most dangerous modifications of Atheism. "The amount of the system" (says Dr Clarke) "is *this*, that all things are equally self-existent, and consequently, that the material world is God *."

In turning over Clarke's works, in quest of the sentence just quoted, another passage occurred to me, which, if I had thought of it sooner, I could have introduced with greater effect in a former part of this argument. The passage, however, must not, on that account, be omitted, more particularly as it applies to the scheme of Spinoza, in common with every other system, which represents the order of events, and the general laws which regulate this order, as altogether the result of necessity.

"All things in the world appear plainly to be the most *arbitrary* that can be imagined,

* Clarke's Works, vol. 2. p. 548. fol. edit.

ned, and to be wholly the effects, not of *necessity*, but of wisdom and choice. *Motion* itself, and all its quantities and directions, with the laws of *Gravitation*, are entirely arbitrary, and might possibly have been altogether different from what they now are. The number and motion of the heavenly bodies have no manner of *necessity* in the nature of the things themselves. Every thing upon earth is still more evidently arbitrary, and plainly the product, not of *necessity*, but of will."

These observations of Clarke recalled forcibly to my recollection the remarks of my much-lamented colleague, the late Professor Robison, in opposition to an opinion of the celebrated M. de la Place, about the *necessary* existence of the law of gravitation. And with a short extract from these, I shall, for the present, dismiss this part of the subject.

"Of all the marks of purpose" (he observes) "and of wise contrivance in the solar system, the most conspicuous is the selection of a gravitation in the inverse duplicate ratio of the distances. Till within these few eventful years, it has been the professed admiration

miration of philosophers of all sects. But M. de la Place annihilates at once all the wisdom of this selection, by saying, that this law of gravitation is essential to all qualities that are diffused from a centre. It is the law of action inherent in an atom of matter in virtue of its mere existence. Therefore it is no indication of purpose, or mark of choice, or example of wisdom. *It cannot be otherwise.* Matter is what it is."

Elements of Mechanical Philosophy, p. 686. et seq.

For Mr Robison's argument in opposition to this theory, I must refer to his work.

To those who know any thing of physical astronomy; it is superfluous for me to observe, (in order to prevent any misapprehension of the meaning of these two profound writers), that although the law of gravitation has all the appearance to us of having been selected out of an infinite variety of others equally possible, yet this law being once fixed, numberless facts with respect to the planetary system follow from it as *necessary consequences*, and are deducible from it by mathematical demonstration, in a manner entirely analogous to that in which one proposition in geometry

metry is inferred from another. This concatenation or connexion, however, although in one sense as necessary as those which we trace in Euclid, is, if I may use the expression, only *a conditional necessity*, which, if the law were altered, would exist no longer. Nor is this all: It will be found, on an accurate examination, to resolve entirely into a necessary connexion among mathematical quantities and figures, not between physical events succeeding one to another in the order of time. Such necessary connexions as these, the only ones which any sound philosopher can admit, it certainly was not the intention of Mr Leslie, any more than of Dr Clarke or of Dr Robison, to deny. But this concession leaves him as much as ever at the mercy of his opponents, whom nothing will satisfy short of an acknowledgment, that he believes in the existence of "SUCH NECESSARY CONNEXIONS BETWEEN CAUSE AND EFFECT AS IMPLY AN OPERATING PRINCIPLE IN THE CAUSE."

On reviewing the various interpretations which have presented themselves in the course of our unsuccessful efforts to get at the bottom

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tom of this mystery, it is worthy of remark, by what a singular concurrence of circumstances fifteen words have been selected and combined together in such a manner as to render so many different conjectures concerning their meaning, not only *possible*, but all of them very nearly equally *probable*. The criterion recommended by *Quintilian* to writers, as the only infallible test of perfect perspicuity, is strongly marked with the good sense of that excellent critic. “*Quare non ut intelligere possit, sed ne omnino possit non intelligere curandum.*” If a rhetorician wished to exemplify to what an extent *Quintilian*’s precept might be reversed, he would not easily find a better example than the foregoing *Ænigma*. Among all the meanings of which it *appears* to a common understanding to admit, there is not one which we can, in Christian charity, ascribe to its authors. Its *real* meaning alone, *that* according to which its authors are yet to explain it, remains inscrutable. Whatever this meaning may be, I pledge myself to acquiesce in the interpretation which they may be pleased to give to their own expressions; taking the liberty,

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at the same time, to assure them, that if their paraphrase on this very knotty text shall be as completely satisfactory to the public mind, as the explanations contained in Mr Leslie's letter have been pronounced to be by the most unexceptionable judges in this part of the island, they may rest contented with the issue of a controversy, which I suspect they already wish that they had not provoked.

In what I have hitherto said, my object has been to show, *in the first place*, That the opinion of Mr Hume, concerning the relation of Cause and Effect *in Physics*, (the only causes and effects to which Mr Leslie's Note can by any intelligent reader be supposed to apply), coincides with that of a great majority of our soundest Divines and Philosophers; and *secondly*, That the *Metaphysical Test* proposed to Mr Leslie by his accusers was of such a nature as to render it equally impracticable for him to *admit* or to *deny* it; the only meanings which it was possible for a man of common ingenuity to extract from it seeming to be all equally dangerous in their tendency, and its *real* meaning still continuing

ing an impenetrable secret. I shall suppose, however, for a moment, that the case had been otherwise; that Mr Leslie's Note had been as unguardedly expressed as the censure of his opponents; and that it had *seemed* to lead, by a logical process, to consequences as alarming as those which *their* language has to me the appearance of involving,—I should still (after having perused his solemn disavowal of these consequences) have conceived myself to be bound to give credit to *his* explanations, rather than to my own doubtful comments on his words. Even in such a case, (and a stronger one it will not be easy for the boldest imagination to figure), it may be reasonably proposed as a subject of doubt, whether, in the present circumstances of this country, and after the times we have witnessed of late years, a wise and good man, a friend to the religion, to the peace, and to the national character of his countrymen, would have judged it expedient, or even excusable, to bring forth abstract subtilties, such as these, from the darkness of that retreat, where the chemical and mathematical disquisitions with which they were surrounded,

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had, for more than ten months, concealed them from the most vigilant eyes in the United Kingdoms, and to hold them up to public view as a fit subject of discussion to all ranks and degrees of society in Scotland. The *fact* is, that they have already been repeatedly discussed (and discussed with open doors) in our inferior ecclesiastical courts; and that there is now every probability, that in the ensuing General Assembly, (at the commencement of the nineteenth century), our National Church, which so long has proudly contrasted the piety, the learning, and the exemplary lives of her pastors, with the dignities and the opulence of other ecclesiastical establishments in Europe, will, from the intemperate heat of a few individuals, be forced to exhibit the melancholy spectacle of a scholastic dispute among Christian Divines, about the metaphysical argument for the existence of God. For my own part, whatever the consequences may be, I enjoy the comfort of reflecting, that I did all in my power to avert them; and that, in the very commencement of the business, I *entreated* some of those persons whose advice appeared to me most likely
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to be effectual, to warn Mr Leslie's accusers, before their passions had hurried them too far to allow their pride an apology for retreating, of the extent to which that flame was likely to spread, which they were so blindly and wantonly kindling. *After*, indeed, the discussions which took place in the Presbytery of Edinburgh,—in the presence of an indiscriminate multitude,—in the presence of numbers of our own students, I acknowledge that I felt otherwise. Interests of a higher nature than those of any individual were now at stake. Insult after insult had been offered to the University; and the opinions of our Academical Youth, concerning the foundations of those essential principles which it is my professional duty to illustrate, and which it has been the great object of my life to defend, were in no small danger of being unsettled by the crude and contradictory notions which were every where afloat. On the one hand, I saw a doctrine, which had been sanctioned by the highest names in Theology and in Philosophy, and which I myself, for more than twenty years, had laboured to establish, from the firmest conviction of

not to transgress, let Mr Leslie's accusers reflect on the circumstances of *their own conduct* on the morning of his election. Let them remember, that it was at the critical moment when this gentleman,—a person who had never offended them, or at least whose only *conceivable* offence was his competition with one of *their* colleagues,—when he was flattering himself with the confident hope of obtaining, at length, the reward of a virtuous and laborious life, devoted from his earliest years to the pursuits of science, and not many days after the suffrages of the Royal Society of London had entitled him to lift up his head in this metropolis, as a man who had done honour to his native land;—it was at this moment, that all his future prospects were to be blasted for ever; the well-earned prize which he was about to receive snatched from his grasp, and he himself—stigmatised as a disgrace to his parent church, proclaimed to be unworthy of belonging to any other, and pointed out to the scorn and execration of the wise and good in every quarter of the globe. Let me remind them, in the last place, that this charge of Atheism was deliberately and publicly

licly preferred, with all the imposing solemnity of legal forms, within a few hours of the time when Mr Leslie's explanatory letter had been read in their hearing; and that, in the act of presenting their written remonstrance to the Patrons of the University, the letter was not only *suppressed*, but no intimation was given that such a letter existed.

APPENDIX.

OF the spirit and temper with which the opposition to Mr Leslie has been conducted, no better specimen can be given than the two following papers, one of which appeared lately in the public prints of this city, and the other has been for some time circulated in manuscript, not only here, but in different parts of the country. To the authors of such anonymous and clandestine attempts to influence extrajudicially the opinions of those who are afterwards to sit as judges on the question to which they relate, ample justice, will, I doubt not, be done in due time and place. At present, I shall confine myself to a few Notes on their contents.

It is indeed with no small mortification that I thus descend to the humble task of commenting on the anonymous speculations of a newspaper metaphysician. With such an adversary, I am fully sensible that I am by no means on equal ground, having formed a resolution in early life, from which nothing, I trust, shall tempt me to depart, never to publish a single sentence on any subject whatever, without the sanction of my name.

N^o. I.

*From the Edinburgh Evening Courant, Thursday
May 2. 1805.*

WE ARE AUTHORISED to insert the following observations.

Edinburgh, 1st May 1805.

As there appeared, in the different newspapers of last week, a copy of a letter from Mr John Leslie, who was lately elected Professor of Mathematics in the University of this City, containing a defence of himself against objections that have been stated to his doctrine upon the subject of the relation between cause and effect; and as it was formerly intimated, in the same public manner, that the letter, when originally received and laid before the Ministers of Edinburgh, had satisfied Dr Hunter, and a considerable number of his brethren; it seems, at length, indispensable, that the public should also know the reasons why that letter afforded no satisfaction to others. For, upon the mind of those who have not read Mr Leslie's book, the assertions contained in his letter might otherwise make an impression very unfavourable to their candour and justice (1).

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(1) Mr Leslie's letter had been read publicly in the Presbytery; and therefore it is not easy to see how its insertion in the

• The object of Mr Leslie's letter is an *unqualified* defence of both himself and his doctrine. So far from renouncing any thing that he had asserted in the publication objected to, he charges the objectors with gross and injurious misrepresentation, and only dreads the effect of their calumny on the mind of strangers. And in these circumstances, it is obvious, that any satisfaction to be derived from the letter must depend entirely upon *the defence of the doctrine being just and valid*. For though Mr Leslie does, at the same time, disavow every inference from his doctrine to the prejudice of religion, this disavowal cannot justify his *continuing* to publish that doctrine, if, upon examination, it shall still be found subversive of all religion.

Mr Leslie rests his defence upon an assertion, "that the note in question refers entirely to the relation between cause and effect, considered as an object of physical examination." Let this assertion be compared with the language of his note, and let the question be thereby determined.

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the newspapers, when, if I recollect right, it was not accompanied with the slightest comment, could furnish any pretence for the publication, in a similar manner, of a set of critical observations, so little adapted to the comprehension of the generality of readers. But it is not surprising, that some persons should feel a little sore on the subject of this letter. If it was judged to be prudent, on the day of Mr Leslie's election, to withhold it from the Magistrates, it could not fail to appear of still greater importance, that it should not be suffered to meet the public eye without a suitable antidote.

This long and elaborate note commences with these very remarkable words: "Mr Hume is the first, as far as I know, who has treated of causation in a truly philosophic manner. His *Essay on Necessary Connexion* seems a model of clear and accurate reasoning. But it was only wanted to dispel the cloud of mystery which had so long darkened that important subject. The unsophisticated sentiments of mankind are in perfect unison with the deductions of logic, and imply nothing more at bottom, in the relation of cause and effect, than a *constant and invariable sequence*."

THERE IS NOT, IN THE PASSAGE HERE QUOTED, A SINGLE AMBIGUOUS EXPRESSION (2):
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(2) And yet that passage, short as it is, contains the words, *Necessary Connexion, Cause and Effect*. For the various meanings of which the *first* phrase is susceptible, the writer of the above article is referred to Dr Gregory's Philosophical Essays, vol. 1. p. 22. (where the subject employs a good many pages). As for the word *Cause*, he will allow me to remind him of the following short sentences in an author, whom, in a subsequent paragraph, he professes to have read.

"Our natural desire to know the causes of the phenomena of nature, our inability to discover them, and the vain theories of philosophers employed in this search, have made the word *cause* and the related words so ambiguous, and to signify so many things of different natures, that they have in a manner lost their proper and original meaning, and yet we have no other words to express it."

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"The terms *cause* and *agent* have lost their proper meaning, in the crowd of meanings that have been given them."

Dr Reid's Essays on the Active Powers, p. 288.

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and it is evident, that, in the concluding sentence, the author expresses himself in terms of such *unlimited* import, as it is impossible to avoid applying to every thing under the name of *cause*, whether ascribed to *matter* or to *mind*. Yet were the words, as here used, capable of any restricted interpretation, they *might* rather be restricted to the subject of *mind*, than to what is *merely physical* or *material*, as stated in the letter. For a living and respectable advocate of the doctrine there avowed, as limited to physical objects, has most suitably observed, that what is *merely physical* can with little propriety be spoken of under the name of *cause*.

Mr Leslie, however, has furnished us with means of ascertaining the import and extent of his

So much for the assertion, that in the first paragraph of Mr Leslie's note *there is not a single ambiguous expression*.

But farther, if it were to be admitted that there was really *no* ambiguous expression in that paragraph, it would follow as a self-evident consequence, that the distinction formerly stated (see pp. 49. and 56.) between physical and efficient causes is completely unfounded; or, in other words, that *physical and efficient causes are one and the same*; a conclusion which, as I before remarked, is the very essence of Spinozism.

If this is not demonstration, I do not know what deserves the name. We may here indeed justly borrow the language which this writer has himself so rashly and unwarrantably applied to another. "The application of this doctrine does not remain a matter of choice. If the principle be admitted, the conclusion is irresistible." I would be far, however, after all, from being understood to charge even this anonymous writer with any leaning to so monstrous a system. The truth probably was, that, in his zeal to convict Mr Leslie of Atheism, he neglected to weigh very accurately the import of his own confident assertions.

his doctrine, in a way that still more effectually precludes the possibility of its being explained in any limited sense, by the unqualified approbation he expresses of what is new and peculiar in Mr Hume's opinions relative to causation, and particularly of his Essay on Necessary Connexion. For all who have read this essay of Mr Hume must know, that though he does apply his doctrine to what have been called *physical* causes, the great object of the essay is *metaphysical*, and that the greater part of the reasoning refers directly to the subject of cause, or an efficient principle in *mind* (3). Mr Hume's doctrine has, accordingly, been opposed upon this ground, by both contemporary and later philosophers; and Mr Leslie, it is believed, is the first person, in this country, that has publicly approved of it.

Mr Leslie has, at the same time, ventured a little beyond the precise ground that was marked out by Mr Hume; for, while Mr Hume seems only to contend that we can attain no *idea* of a connexion between cause and effect, and are therefore not entitled to reason upon the supposition that there is a connexion, Mr Leslie expressly asserts that no such connexion exists. He accordingly attempts, in his Note, to establish this position, by a long etymological

(3) This may be true with respect to Mr Hume; but how does it apply to Mr Leslie, the subject of whose book, being wholly physical, could not possibly, (unless we suppose him to be divested of common sense), have led his thoughts to topics of discussion so totally foreign to his purpose? (See p. 32.)

etymological argument; intended to show that neither the word *cause*, nor any *synonymous word in any language*, is either designed or calculated to denote any thing more than "first in the order of succession," or "the object which precedes." This argument is evidently opposed to the reasoning of the most enlightened adversaries of Mr Hume, who have, with great propriety, contended that the use and import of the word *power* in all languages affords a strong refutation of his doctrine. And there is, besides, an evident impossibility of restricting such an argument to *physical* causes: for if we were not left in possession of a word to denote an efficient principle, how should we henceforth *speak* of such a principle; with reference even to the Divine mind?

If the language, then, of Mr Leslie's Note, cannot be otherwise understood than as a denial of an efficient or operating principle in any cause, no reasoning can be necessary to show, that this doctrine, were it admitted, would at once put an end to all possibility of arguing, from what we have been accustomed to call the *works* of God, for the purpose of proving either his Being or his attributes. But, in fact, the doctrine strikes more *directly* at the foundation of religion. The sceptical conclusions of Mr Hume are not merely a *consequence* of the doctrine; they are, to a great extent, *contained* in it. The assertion, that there is no operating principle in any cause, is a virtual denial

denial of God as a *Creator*, and of our relation to him, and dependence upon him, as his *creatures*. And the doctrine does not less directly strike against the attributes of God. To assert that there is no operating principle in any cause, is a virtual denial of *Divine power*; and, accordingly, the original author of this doctrine did not hesitate to affirm, in the very Essay that Mr Leslie has approved and sanctioned, that *power* seems a word "absolutely without any meaning, when employed either in philosophical reasoning, or in common life." Nor is *power* the *only* attribute of God that this doctrine would annihilate: for what are his *wisdom* and *goodness* but Divine energies, or, in other words, operating principles? (4).

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(4) It is worthy of observation, that although Mr Leslie is charged in the two last paragraphs with *denying* the existence of a *connexion* between cause and effect, and also the existence of an *operating principle* in any cause, the charge in the *Representation and Protest*, of his having *denied such a NECESSARY connexion between cause and effect as implies an operating principle in the cause*, has entirely disappeared. A similar change of language is still more striking in the circular letter, which forms the next article, the writer of which only charges Mr Leslie with having *denied ALL SUCH CONNEXION between cause and effect, as implies an operating principle in the cause*. The important epithet *necessary* is here very dextrously omitted; the author probably taking it for granted, that some of his country Brethren were better Metaphysicians than the Magistrates of Edinburgh. I confess I begin to suspect, that he would now be not ill-pleased, that this unlucky word had been also left out in the *original record*, which is to transmit to posterity the particulars of this memorable *Aviſamentum*.

. Mr Leslie speaks, in his letter, of the "gross misapplication that Mr Hume has made of his premises," intimating that *he* never intended to apply them in the same manner. But IF, BY MR HUME'S PREMISES, WE ARE TO UNDERSTAND THE WHOLE DOCTRINE OF THE ESSAY ON NECESSARY CONNEXION, WHICH MR LESLIE HAS ADOPTED AS HIS OWN (5), the application of that doctrine, to the extent in which it has now been stated, does not remain a matter of *choice* to any man who admits the doctrine itself;—if the principle be admitted, the conclusion is irresistible. Mr Leslie indeed says, that the misapplication of Mr Hume's premises has already been well pointed out by Dr Reid. But EVERY MAN, WHO HAS READ DR REID'S ESSAYS, MUST KNOW THAT HIS OBJECT, IN REPLYING TO MR HUME, IS TO RESIST THE PREMISES THEMSELVES, AND THE VERY DOCTRINE WHICH MR LESLIE HAS APPROVED AND SUPPORTED AS CONTAINED IN THE ESSAY ON NECESSARY CONNEXION. (6.)

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(5) In all the controversial writings into which I have looked, I do not recollect to have met with such an instance of an unblushing want of candour and good faith, as this sentence exhibits. Is it possible for any man of common understanding seriously to doubt, that Mr Leslie, when he applied the words *premises* and *conclusion* to Mr Hume's Essay on Necessary Connexion, used them in the same sense in which they are employed in a quotation which the reader will find in pp. 50, & 51, of this Pamphlet?

(6) It is rather unfortunate for the writer who has hazarded the foregoing remark, that Dr Reid himself, in the very first

It will not probably, in these circumstances, appear surprising that they, who object to Mr Leslie's doctrine, have not received much satisfaction from the pledge he has given, with a view to a future edition of his book,—not a pledge to retract his doctrine, or even to correct

first of his *Essays on the Active Powers of Man*, should have expressed himself so clearly on this point, in the following words.

“ I acknowledge, that our having any conception or idea of *power* is repugnant to Mr Locke's theory, that all our simple ideas are got either by the external senses, or by consciousness. Both cannot be true. *Mr Hume perceived this repugnancy, and consistently maintained, that we have no idea of power.* Mr Locke did not perceive it. If he had, it might have led him to suspect his theory; for when theory is repugnant to fact, it is easy to see which ought to yield.”

From this passage it appears to a demonstration, that in Dr Reid's judgment, the unsound part of Mr Hume's reasonings concerning *power* lies in that link which connects his premises with his conclusion. This link is Mr Hume's theory (borrowed, with some slight alterations, from Locke) with respect to *the origin of our ideas*; a theory delivered in a previous Essay, and to which Mr Leslie has not, in the most distant manner, alluded. If this theory be rejected, (which no person can avoid doing who understands the repeated refutations which it has received from Mr Harris, Dr Price, Dr Reid, and others), Mr Hume's conclusion falls to the ground. If it be admitted, Dr Reid pronounces Mr Hume's conclusion to be irresistible.

It is worthy of observation, that Dr Reid, although he asserts Mr Hume's conclusion concerning the *idea of power*, to follow as a necessary consequence from Mr Locke's account of the *origin of our ideas*, does not, on that account, seem to have thought himself entitled to charge Mr Locke with an *intention to subvert all religion, natural as well as revealed*. Some pretty severe strictures on Dr Reid himself, on this

been, in this instance, laid, the stronger that his sense of religion is, the stronger obligation should he feel himself under to withdraw, and discontinue to publish, what is subversive of religion; and more than this, in the case of Mr Leslie, has never been expected or desired.

Nº II.

*MEMORIAL clandestinely sent to various Members of the ensuing General Assembly *.*

IT is generally known, that the Town Council of Edinburgh have lately elected to the Chair of the Professor of Mathematics in the University, Mr John Leslie, author of an "Experimental Inquiry into the Nature and Propagation of Heat," and that objections are stated against Mr Leslie's appointment as a Professor by a majority of the Ministers of Edinburgh.

These objections, as far as they are personal to Mr Leslie, are founded upon the publication now referred to, in which there occur different

* The near approach of the General Assembly (which meets to-morrow) obliges me to print the following Paper without the comments which I originally intended. I have, however, printed, either in Italics or in small capitals, the clauses which I wish to recommend more particularly to the reader's attention.

different passages very exceptionable in a religious view. But as the ministers who object to Mr Leslie have no desire to multiply grounds of charge without necessity, they content themselves with directing the attention of others to the Note No. XVI. subjoined to Mr Leslie's book, in which he has stated and defended an opinion calculated to undermine the foundation of all religion, both natural and revealed.

The Note commences with these words, "Mr Hume is the first, as far as I know, who has treated of causation in a truly philosophic manner. His *Essay on Necessary Connexion* seems a model of clear and accurate reasoning. But it was only wanted to dispel the cloud of mystery, which had so long darkened that important subject. The unsophisticated sentiments of mankind are in perfect unison with the deductions of Logic, and imply nothing more at bottom, in the relation of cause and effect, than a *constant and invariable sequence*."

It is well known, that Mr Hume's doctrine of causation, and particularly his *Essay on Necessary Connexion*, are the foundation of *all his infidel tenets*; and it is evident that Mr Leslie, IN HAVING THUS, ALONG WITH MR HUME, DENIED ALL SUCH * CONNEXION BETWEEN CAUSE AND EFFECT, AS IMPLIES AN OPERATING PRINCIPLE IN THE CAUSE, has of course laid a foundation for rejecting all the argument that is derived from the works of

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God,

* See Note No. (4) on the foregoing Article.

God, to prove either his being or his attributes.

Mr Leslie proceeds, in the Note referred to, to support his proposition by a long etymological argument, intended to shew, that neither the word cause, nor any synonymous word in any language, is either designed or calculated to denote any thing more, than "first in the order of succession," or, "the object which precedes;" so that were his reasoning to be held conclusive, we should not even be left in possession of words to convey the idea of an operating power in the Divine Mind. And as the doctrine extends equally to a denial of all connexion between volition in the human mind and the conduct to which it leads, there results from it, as unavoidably, a denial of man being accountable for his conduct.

This doctrine of Mr Leslie, in which it will be found, upon examination, that, as a disciple of Mr Hume, he has even taken higher ground than was ever ventured on by (his) master, has appeared to the Ministers of Edinburgh in a very different view from those partial heresies, real or supposed, for which Professors in the Universities have been formerly called in question by the Church. AND LOOKING TO THE PUBLICATION OF THIS DOCTRINE, IN CONNEXION WITH THE CIRCUMSTANCES OF THE TIMES, WHEN THERE APPEARS AN INFIDEL PARTY ARRAYING ITSELF, WITH INCREASING CONFIDENCE, AGAINST THE RELIGION OF THE COUNTRY, THEY CANNOT BUT CONSIDER

SIDER THE APPOINTMENT OF MR LESLIE TO BE A PROFESSOR AND A TEACHER OF YOUTH, AS A MEASURE OF VERY UNFRIENDLY ASPECT TO OUR CHRISTIAN FAITH, AND OUR CHURCH ESTABLISHMENT FOR ITS SUPPORT.

A letter indeed has appeared from Mr Leslie, professing to be explanatory of his doctrine; but the Ministers of Edinburgh have found in it little more than an attempt to deny and misrepresent the obvious meaning of words, as if both Mr Hume's doctrine and Mr Leslie's referred merely to physical causes; while every man who reads Mr Hume's Essay in connexion with Mr Leslie's Note, must perceive that their conjoint doctrine upon the subject of causation is placed upon the broadest ground, extending to every thing under the name of cause, in either matter or mind. Mr Leslie has indeed added, in his letter, that he did not intend to apply his doctrine to the purposes for which it was applied by Mr Hume. But to the extent in which the Ministers of Edinburgh have represented his doctrine as hostile to religion,—considered as a doctrine subversive of the argument for the being and perfections of God, and for man being an accountable agent,—the application did not remain to be made; the application is necessary and unavoidable: if the principle be once admitted, no mind can resist the conclusion.

The Ministers of Edinburgh have therefore felt it their indispensable duty, to protest, in

the most solemn manner, against Mr Leslie's appointment; both upon the grounds now stated personal to himself, and upon the separate ground, that they had a right to be previously advised with by the Town Council, respecting the election of a Professor, in terms of the Charter of James the Sixth erecting the University; by which the power of electing Professors is vested in the Town Council, under the express provision of its being exercised *with the advice of their Ministers*, (*"cum avisa-mento tamen eorum Ministrorum."*)

The claim of the Ministers of Edinburgh, under the Royal Charter, will naturally fall to be discussed in a civil court. But they would account themselves deficient in the duty they owe to the Church, if they did not also take the proper steps for bringing the whole of this interesting case, if it shall be found necessary, under the consideration of the General Assembly. *In the mean time they are disposed, if they shall err, to take their chance of erring on the side of lenity and forbearance, rather than on that of severity and rigour: and upon this principle they have resolved, that if Mr Leslie shall consent to withdraw what is offensive in his publication, either by cancelling the leaves of the book which contain the note referred to, or by any other means, equally effectual, that may be more agreeable to himself, they will, in that event, cease their proceeding as far as concerns him individually, and content themselves with following out the*

the necessary measures against the Town-Council, for establishing their right of *avisamentum* in future cases. But as there is hitherto no prospect of Mr Leslie giving this satisfaction for the offence he has committed against the religion of his country, in which case the dangerous opinions contained in his book would continue to be circulated and published among the youth of the land, under the sanction of the name of a Professor in the University of Edinburgh; it is likely there will be an unavoidable necessity of discussing the whole affair in the General Assembly; with a view to that Venerable Body employing such means of redressing the grievance, as to them may appear wise and competent.

The Ministers who thus object against Mr Leslie's appointment as a Professor, think it their duty at the same time to mention, that though they take to themselves the name of the *Ministers of Edinburgh*, as being a considerable majority of that body, and though, in this case, they had at first the countenance of several of their ordinary ecclesiastical opponents; all these gentlemen have now deserted them. *The reasons and motives of this desertion, they will not rashly judge or condemn.* But they are aware that their *own* motives are at present called in question, upon a supposition of their being influenced by a regard to the interest of their brother *Mr Macknight*, as a candidate for the Mathematical Chair, or by other personal considerations.

siderations. To the persons who lay this charge, they make no reply. But to others they think it their duty to state, that only one or two of their number ever solicited an individual in favour of Mr Macknight; and that, before their proceedings in this case commenced, Mr Macknight's pretensions were entirely out of [the] question; to which facts they only desire to add, that, WERE THEY ACTUATED BY ANY VIEW TO THEIR FUTURE INTEREST, OR THAT OF MR MACKNIGHT IN PARTICULAR, IN RELATION TO THE CHAIRS OF THE UNIVERSITY, THE MEASURES THEY ARE NOW ADOPTING WOULD BE THE MOST EFFECTUAL THEY COULD EMPLOY FOR DEFEATING THEIR OWN PURPOSE.

At any rate, the case which has been stated ought to be judged of upon the single ground of its own merits. The opposite opinions which men may entertain, whether of the motives of those who bring forward this question, or of the general merits of Mr Leslie as a gentleman and a scholar, cannot with reason be allowed in such a case to influence their judgment of the question itself. For, if the charge that is laid be well founded, it is obvious that the judgment to be pronounced must affect the vitals of our Christian faith, and our Church establishment. IT IS THEREFORE HOPED, THAT THE LAITY, CONNECTED WITH THE CHURCH, WILL NOT, IN THIS INSTANCE, REFUSE TO A QUESTION MORE IMMEDIATELY

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N^o III.

LIST of the Members of the Presbytery who voted for dismissing the Reference from the Ministers of Edinburgh, from the Ecclesiastical Courts.

Dr Hunter.	Mr Walker.
Dr Davidson.	Mr Buchanan.
Sir Henry Moncreiff.	Mr Bonar.
Dr Johnston *.	Mr Black.
Mr Simpson.	Mr Duncan.
Mr Dickson senior.	Mr Robertson.
Mr Dickson junior.	

Whether the Reverend Gentlemen whose names are mentioned above, or their Reverend opponents, are the soundest Divines, according to the standards of the Church of Scotland, is a question upon which it does not belong to me to offer an opinion. The former have certainly shown themselves, in the speculative argument connected with Mr Leslie's Note, by far the soundest philosophers.

To another praise, of a much higher kind, they have been eminently entitled, in all the proceedings relative to this unfortunate contest; the praise of a genuine and truly Christian *moderation*, reflecting credit on themselves and on their order.

* Dr Johnston did not stay to vote, but gave his opinion, and at next meeting joined his dissent.

N^o IV.

Nº IV.

SINCE the foregoing pages were printed off, I have been informed, that some offence has also been taken at the *following* passage in Mr Leslie's Note. What is the specific objection to it I have not learned, nor can I easily conceive. I can therefore, at present, do nothing more than to transcribe the paragraph, and to place in contrast with it a speculation of Dr Reid's, to which it appears to me in its principal features to bear a very strong resemblance.

“ But in conceiving the relation that subsists between cause and effect, do we not *feel* something more than the mere invariable succession of events? I will admit the fact; but I maintain, that, like many other spontaneous impressions, it is a fallacious sentiment, which experience and reflection gradually correct, yet never entirely eradicate. It is a vestige of that extended sympathy which connects us with the material world: It is the shade of that propensity of our nature to bestow life and action on all the objects around us; to clothe them with our own passions and habits, and to discover the image of ourselves reflected from every side. This disposition is very conspicuous in children; nor is it even wholly effaced by the progress of age. Hence the true foundation of what is called figurative language. Vivid imagery

gery always implies a real, though transient, belief. Personification is the most familiar, either to those not accustomed to repress the spontaneous emotions, or to those who have cultivated the power of recalling the passions in all their native glow. A choleric man, who happens to strike his foot against a stone, vents his rage on that obstacle, because, for the moment at least, he actually believes it to be animated like himself. The efforts of the poet and those of the philosopher are diametrically opposite. The one endeavours to subdue the passions, and to correct our early and false impressions; the other seeks to renew our infant visions, and to expand the warm and illusive creation of untamed fancy. Yet, after a severe exercise of reason, the mind finds grateful relief in that magical and fantastic colouring which tricks external objects, and diffuses life and sentiment throughout nature. Pomp of language—smoothness and harmony of verse—are only the accessory decorations; fervid animation constitutes the soul of descriptive poetry. It is hence that mythology, the religion of the vulgar, has ever been a favourite subject with the poets.” *Leslie on Heat, p. 525.*

“ When we turn our attention to external objects, and begin to exercise our rational faculties about them, we find, that there are some motions and changes in them, which we have power to produce, and that they have many
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which must have some other cause. Either the objects must have life and active power, as we have, or they must be moved or changed by something that has life and active power, as external objects are moved by us.

“ Our first thoughts seem to be, That the objects in which we perceive such motion have understanding and active power as we have.”

‘ Savages, says the Abbé Raynal, wherever they see motion which they cannot account for, there they suppose a soul.’

“ All men may be considered as savages in this respect, until they are capable of instruction, and of using their faculties in a more perfect manner than savages do.

“ The rational conversations of birds and beasts in *Æsop's Fables* do not shock the belief of children. They have that probability in them which we require in an epic poem. Poets give us a great deal of pleasure, by clothing every object with intellectual and moral attributes, in metaphor and in other figures. May not the pleasure which we take in this poetical language, arise, in part, from its correspondence with our earliest sentiments ?

“ However this may be, the Abbé Raynal's observation is sufficiently confirmed, both from fact, and from the structure of all languages.

“ Rude nations do really believe sun, moon and stars, earth, sea and air, fountains and lakes, to have understanding and active power.

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To pay homage to them, and implore their favour, is a kind of idolatry natural to savages.

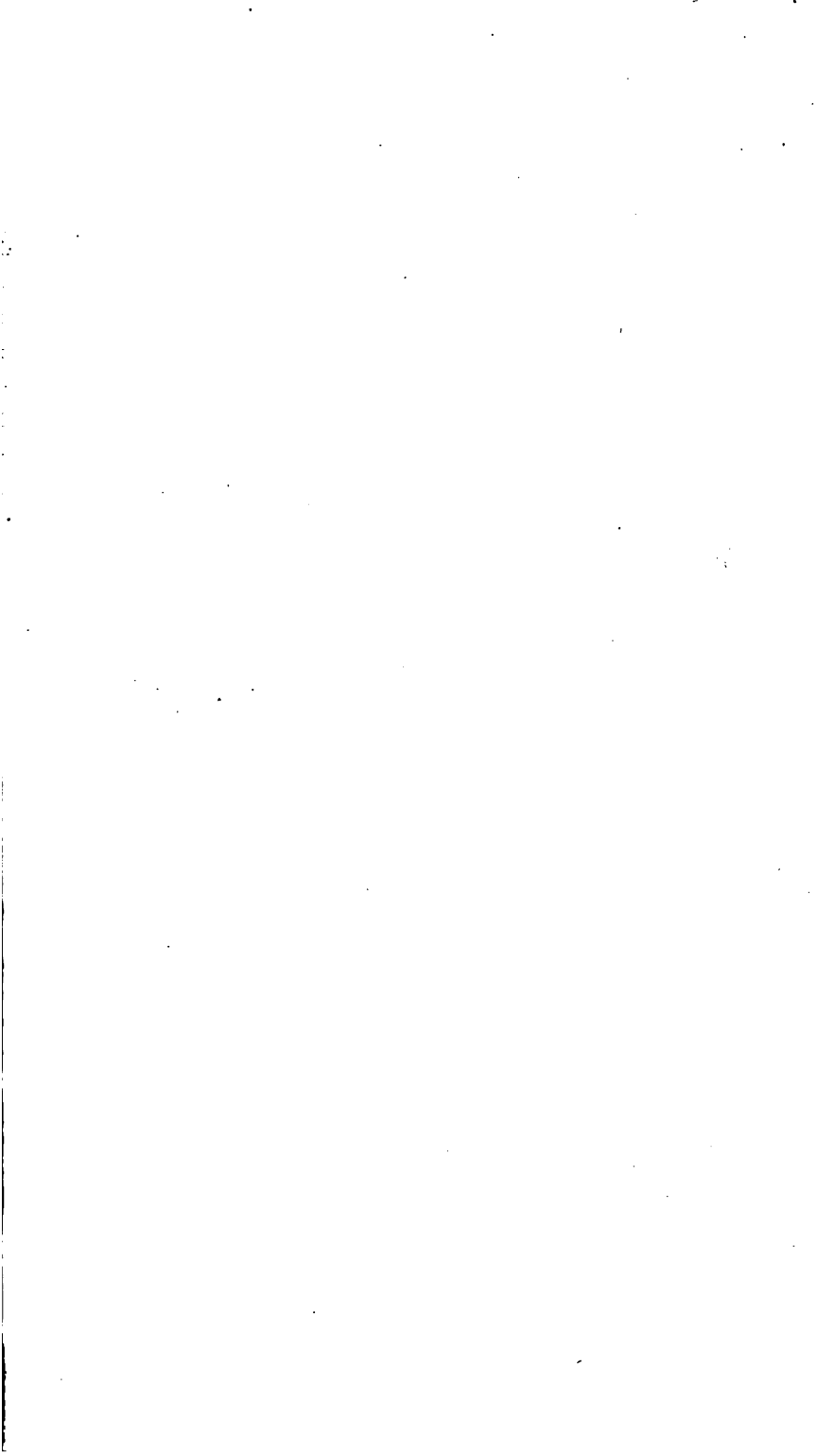
“ All languages carry in their structure the marks of their being formed when this belief prevailed. The distinction of verbs and participles into active and passive, which is found in all languages, must have been originally intended to distinguish what is really active from what is merely passive ; and, in all languages, we find active verbs applied to those objects, in which, according to the Abbé Raynal's observation, savages suppose a soul.

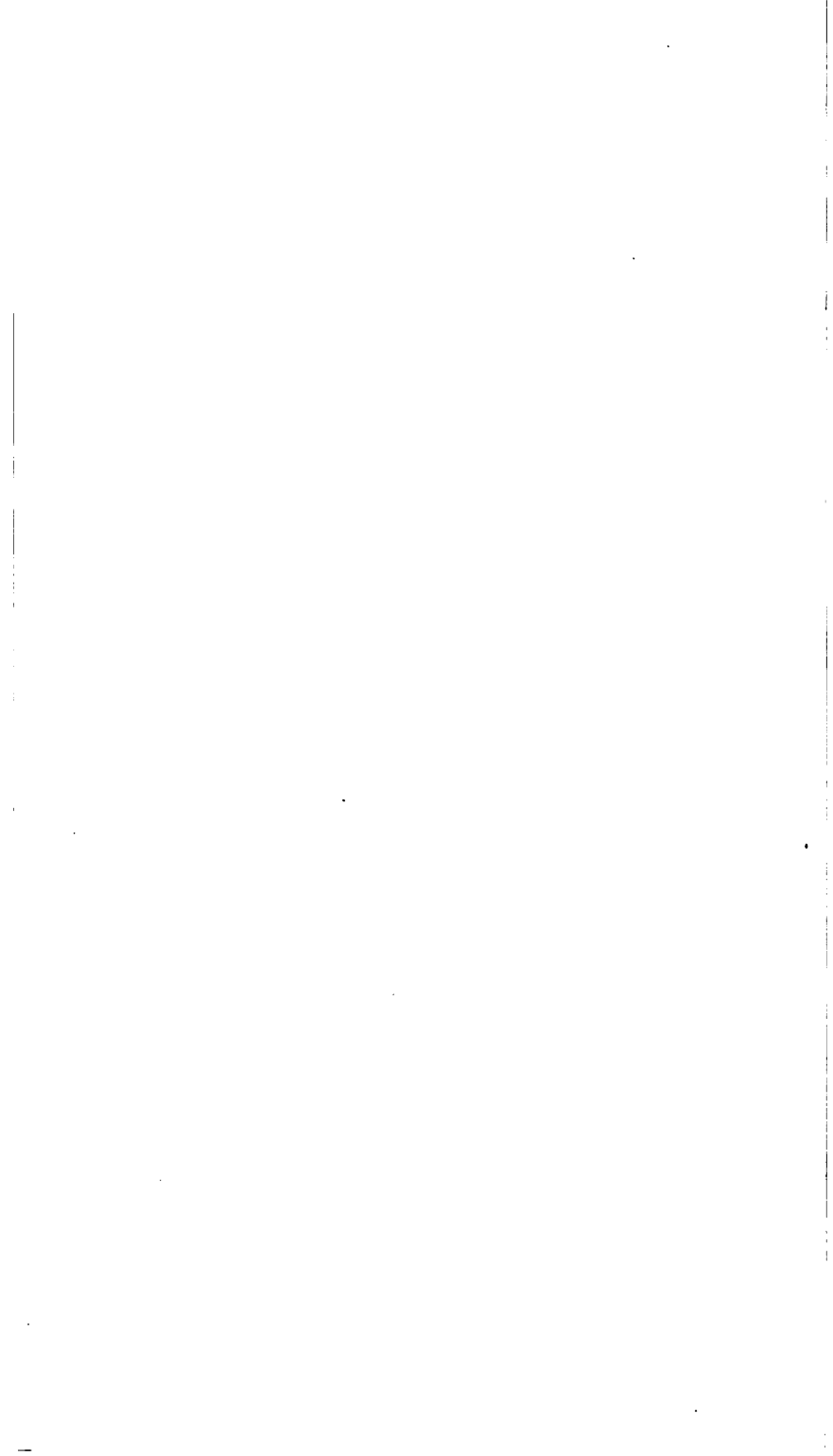
“ Thus we say the sun rises and sets, and comes to the meridian, the moon changes, the sea ebbs and flows, the winds blow. Languages were formed by men who believed these objects to have life and active power in themselves. It was therefore proper and natural to express their motions and changes by active verbs.

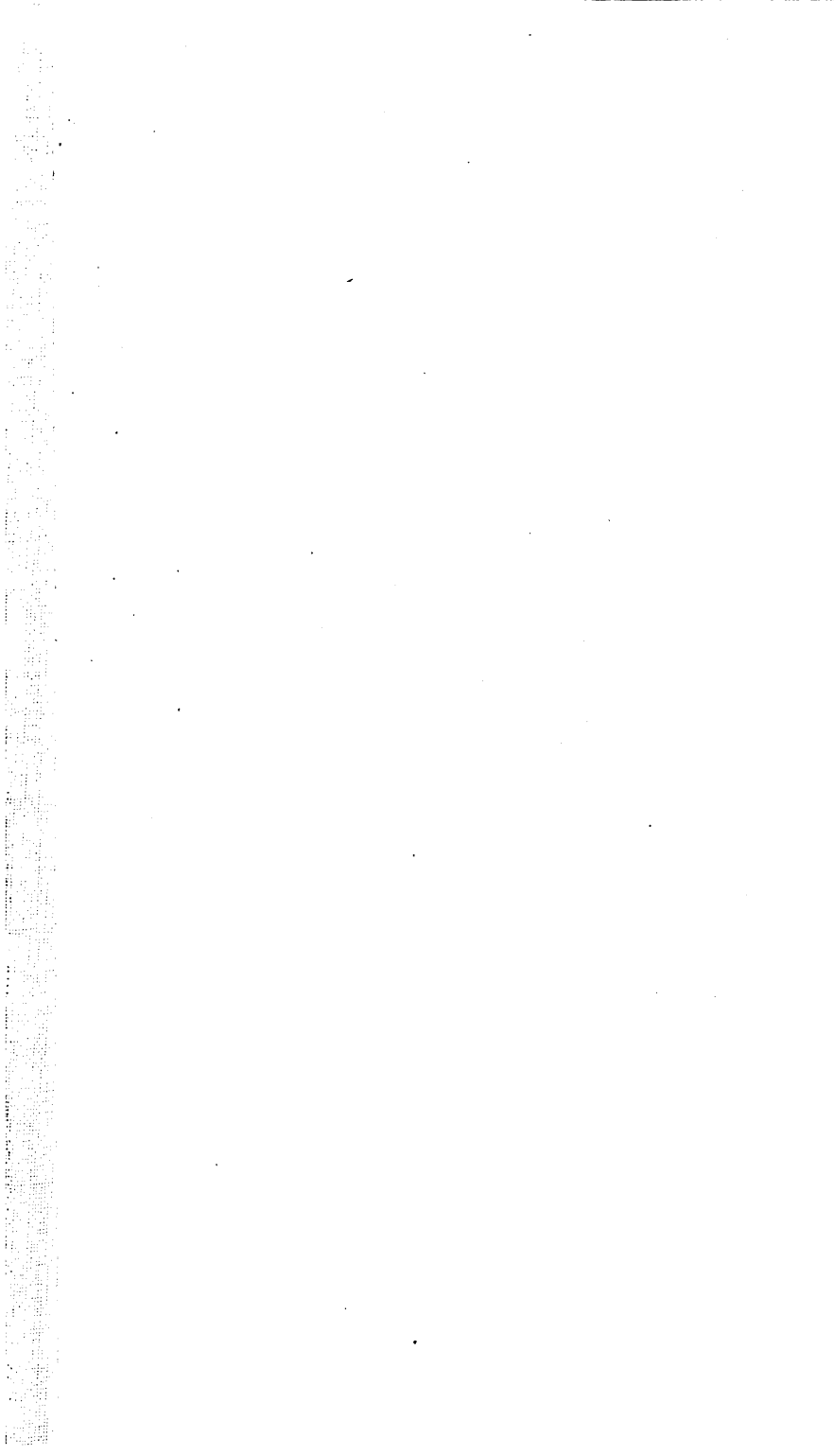
“ There is no surer way of tracing the sentiments of nations before they have records, than by the structure of their language, which, notwithstanding the changes produced in it by time, will always retain some signatures of the thoughts of those by whom it was invented. When we find the same sentiments indicated in the structure of all languages, those sentiments must have been common to the human species when languages were invented.

“ When a few of superior intellectual abilities find leisure for speculation, they begin to philosophise,

724⁵⁰









JUL 1931

